# amateur radio

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1968

30c

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53.032 Mc. a.m.

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14.342 Mc.

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3672 Kc., and re-transmitted by representative stations on—
7146 Kc. 144.1 Mc.
53.032 Mc. 432.6 Mc.

FEDERAL COMMENT

# THE YEAR IN REVIEW

There's an old adage that says one should never look backwards but always forward to the future. This may be very true in some aspects of living, but in the technical field of Amateur Radio I believe it a good thing to look back and review at least the immediate past in order to more adequately prepare for the future.

This will be my last year as Federal President of the W.I.A. and during my 17 odd years on the Federal Executive I have been working alongside men from all walks of life who have zealously applied themselves in their own spare time to the problems of administering the affairs of the Wireless Institute of Australia. This has resulted in the realisation of many early ambitions and a logical expansion of the administration of the Institute to cope with increasing membership, a growing list of licensed Amateurs, an upgrading of the technical knowhow of Amateurs, the preservation and rationalisation of the regulations governing the operation of Amateur Stations and in general the representation of the Amateur Service in Australia on a basis compatible with the large and well organised Societies overseas.

As in any kind of Society the internal organisation has to keep pace with the times and in this regard it was necessary some years ago to move towards federating the Institute. Last year final agreement between the Divisions of the W.I.A. was reached which will result in the formation of a "Federal Company", the members of which will be the W.I.A. Divisions in each State. The Federal Executive will act as Directors of this Company, fully responsible to, and controlled by, the members, but empowered to act on behalf of its members in such manner that representation of the Amateur Service, the administration of the affairs of the Institute and expansion of Regional activities in the national sphere will become very much more effective. In addition, the Federal Constitution affords a legal protection for Executive members, hitherto enjoyed only by Divisional Council members. To bring this to fruition has taken five years—and looking back it has been five years well spent in providing a more effective and workable constitution commensurate with the requirements of the present and for the future.

The W.I.A. Federal Executive has always been privileged to have a good liaison with the Australian Post Office who administer the use of the radio frequency spectrum in Australia. There have been many problems to solve over the years, but I believe the present co-operative outlook existing between the W.I.A. Federal Executive and the Central Office of the Postmaster-General's Department has never been better. Over the past two years this co-operation successfully produced a complete re-write of the **Handbook for the Guidance of Operators of Radio Stations in the Amateur Service**, sections of which have appeared in recent issues of the Institute's magazine "Amateur Radio". This has been a major achievement in up-dating the conditions of operation of Amateur Stations to the benefit of licensees and surely, also, it must ease the administrative load of the Department.

This co-operative "channel of communication" between the W.I.A. Federal Executive and Central Office has firmly established means by which regulatory problems involving Amateurs can be dealt with by the Federal Executive, the results of such negotiations being promulgated uniformly to the States through both the P.M.G. State Superintendents and the Divisions of the W.I.A. Such a liaison is a major function of the Federal Executive and Amateurs concerned in regulatory problems are urged to direct details of specific problems to the Executive through their State Divisional Councils and not direct to the Radio Branch in their State. By this means your problem will receive the attention of the Central Office of the Postmaster-General's Department and a uniform decision throughout the States will result.

Looking back over the past year, I believe the image of Amateur Radio has markedly improved. The community service rendered by the Wireless Institute Civil Emergency Network (W.I.C.E.N.) during actual and simulated emergencies has been a powerful influence in engendering this improvement. From a backroom hobby, Amateur Radio has emerged as a recognised communication service, accepted by the Civil Defence Organisations as a valuable asset in its role of protecting public property in times of emergency.

The Youth Radio Scheme (Y.R.S.), fostered by the W.I.A., has also assisted in lifting the image of Amateur Radio. The scheme is now a widespread and successful operation, taking a useful technical training course into the educational system of schools.

That Amateur Radio should have—and deserves—a better image seems to me to be of paramount importance, for the true worth of Amateur Radio to a country is much more than the general public concept of fellows "tinkering around with bits and pieces of equipment" and "nattering away on the air with technical jargon". Amateur Radio is a scientific basis for the technological advancement of any country which supports it, evidenced in Australia by the large number of Amateurs who operate its communication services in one way or another. As an illustration of this, the lecture presented to the I.R.E.E. on December 12 last year on the occasion of celebrating Radio Founders' Day was devoted to the role Amateur Radio has played in the field of professional and commercial communications. The lecture, given by Dr. Allan Butement, VK3AD, Director of Research of the Plessey Group of Companies, was one of those events which plays a vital part in lifting the image of Amateur Radio.

Apart from normal administrative matters, probably the greatest problem facing all Amateur Radio Societies is the preservation of the existing Amateur frequency band allocations. Last year Air Commodore George Pither, VK3VX, joined the Federal Executive as the W.I.A. official Federal Liaison Officer. His major task—when the time comes—will be to represent the W.I.A. at conferences at home and abroad which will deal with the allocation of frequencies to the Amateur Service. He is an Amateur well equipped to carry out this important work, being experienced in top-level diplomacy and having a wide knowledge in the field of communications. Pending the requirement of his services officially, Air Commodore Pither is assisting in the organisation of the proposed Australian Intruder Watch Service, details of which have appeared in recent issues of "Amateur Radio" magazine. The Service will be implemented officially early in the new year for which we still require the services of many more Amateurs who are prepared to devote a few hours each week to monitoring the bands if the scheme is to be as successful as it is in the United Kingdom and the United States of America. This Service is being implemented because of a direct request last year from the International Amateur Radio Union of which the W.I.A. is a member.

Finally, and important too, is the work done by the Federal Executive in the area of liaison and assistance to Amateurs in Region III. neighbouring countries. During last year many editorials, articles and broadcasts relating to this matter were undertaken, designed to focus attention on the urgent necessity for the W.I.A., as one of the largest of the Region III. Amateur Societies, to take an active part in promoting Amateur Radio in this Region (S.E. Asia and Oceania).

I believe we have made a good start but there is a lot of work to be done if Region III. is to play its part at future I.T.U. Conferences. The Region I. and Region II. Amateur Societies are both large and well organised. In Region III. there are many countries which have little or no Amateur Radio activity. This spells danger to Amateur frequencies if the I.T.U. examines frequency allocations on a Regional basis as it appears it well might do. I am therefore of the opinion that the role of the W.I.A. is to do everything in its power to assist the under developed countries, particularly in the formation of Amateur Radio Societies. By this means a stronger and united front can be presented in defence of the Amateur Service frequency requirements.

1967 was a year of progress; 1968 must be a year of achieving further results from this progress. With the continued dedication of those who enjoy taking up administrative posts with the W.I.A. we will no doubt achieve our aims for the benefit of the Amateur Service.

—G. Maxwell Hull,
Federal President.

# A LOW POWER TWO METRE S.S.B. TRANSMITTER

STEPHEN GREGORY,* VK3ZWG

ONE of the first things noticed about v.h.f. s.s.b. was the lack of operators of this mode. There are many circuits, cut and tried, to transvert low band s.s.b. to v.h.f., however these so-called low level devices usually required one or two watts drive to make them work properly.

The usual output attainable from an exciter unit after mixing is only in the region of hundreds of milliwatts, so most of the mixing circuits using triodes and cathode injection are impossible to get going using low level excitation.

This is a circuit using a low level exciter and can be used with any filter or phasing generator running around 5 Mc.

As with an article published in "A.R." by Keith VK2ZAU, there are no arguments offered for or against s.s.b.; this article is primarily to assist any person over the pitfalls and problems encountered by the author during construction.

The fact that this rig uses a commercial generating unit is of no importance as I have since built a phasing type unit for use on 52 Mc. and there is little difference in performance except the speech quality of the phasing type is possibly better than the filter type.

144 Mc. was chosen as a starter in preference to 52 Mc. as greater experimentation with "on-air" transmission can be carried out. Channel 0 is an old story over here, yet I don't get the bad t.v.i. reports as much as I used to on 52 Mc. running 20 watts s.s.b., where previously from 10 watts of a.m.

The exciter is a low level heterodyne type, the first mixer combines the 5 Mc. sideband with the second harmonic of the crystal oscillator to give the first source at 34 Mc. This is then mixed with the eighth harmonic of the crystal oscillator to give 144 Mc., which is amplified in a self biased amplifier to give about 10 watts peak.

The oscillator/buffer is fairly conventional, being fed from a 150 volt regulated supply, excepting the anode of the pentode, which is fed from normal h.t.

It helps greatly to have a rock steady regulated supply, however for mobile use I found that it was a great advantage to have all the OB2 regulated tubes on the main chassis.

Problem one was the choice of a suitable tube with sufficient sensitivity to give a reasonable output at 34 Mc. Several American triode circuits were tried using a 12AT7, 12AY7 and 6BL8, but all failed to produce sufficient output for direct coupling to the second mixer.

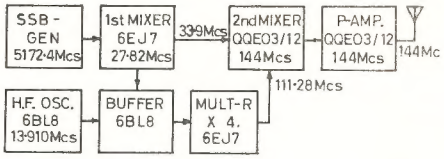



FIG.1. BLOCK DIAGRAM.

At one stage, I settled on a 12AT7 cathode follower-mixer and a 6EM7 amplifier at 34 Mc., however the gain of the 6EM7 caused the 27.820 to be rather annoying when tuning up the rig.

After selecting a 6EJ7, which is designed for use in the 30-40 Mc. region, I finally obtained enough output to light a pea lamp with full carrier wound in. This, I may hasten to add, occurred at approximately 3 a.m. one Sunday morning, several weeks ago, after many hours of so-called trial and error circuits.

I carried out experiments with a 3/70 pF. trimmer at C1 and although a greater output could be obtained with greater C, the harmonic 27.820 also increased accordingly.

Finally, approximately 20 turns ¼" diam. with a 7/70 pF. across it was fitted in series with the mixer anode to trap out the 27.820 Mc. signal. The overall efficiency of the circuit now increased and one small torch globe burnt itself out.

The 6EJ7 quadrupler was mainly chosen due to the author being in t.v. servicing and an abundance of these tubes resides around the QTH. The 52 Mc. rig uses five of these tubes and they are very sensitive as a class A amplifier for which they were designed originally.

Link coupling was used to the 3/12 tuned circuit, also at 34 Mc. Several methods were tried to induce the 112 Mc. signal into the 3/12 mixer. The cathode link idea ("A.R.," March '67) proved okay, but a greater output was obtained when the quadrupler was peaked to resonance using a coil about ¾" diam. for high Q and the signal injected by two 10 pF. capacitors into the grids. Surprisingly, the mixing source was fairly low in output (112 + 27 = 139 Mc.), however series tuned traps were used. These consisted of 6 turns ¼" diam. 16 gauge with 3/30 pF. across them.

VK3ZPX found it necessary to trap an annoying harmonic in this way which appeared as pure unintelligible gargle outside the band.

It must be pointed out that spurious signals in a linear amplifier can completely "foul up" an otherwise perfect sideband signal due to these weird sum and difference frequencies plonking a bit of spurious signal a few kilocycles up the band.

I worked on the principle that if there was an unaccountable signal

(Continued on Page 16)

* 22 Moodie Street, Caulfield, Vic., 3162.

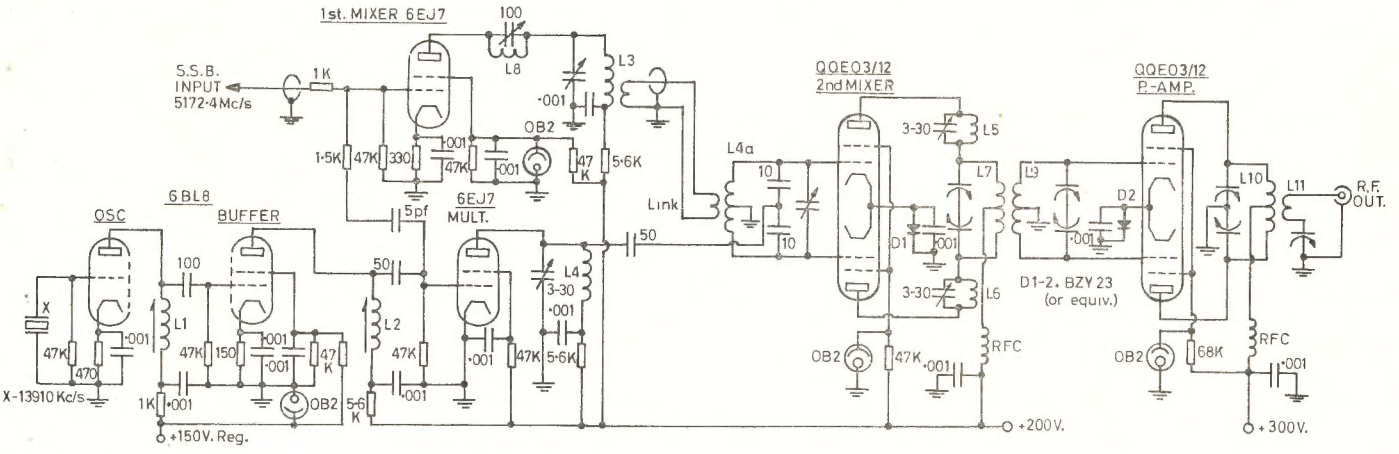
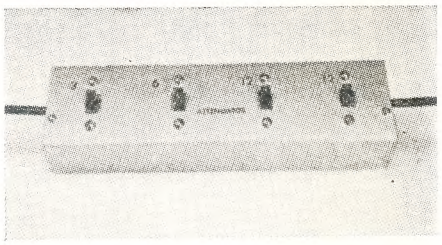



FIG.2. CIRCUIT FOR LOW POWER 2 METRE S.S.B. TRANSMITTER.

D1, D2—BZY93 or equivalent.
L1—22 turns ¾ in. diam. s./t. 20 s.w.g.
L2—22 turns ¾ in. diam. s./t. 20 s.w.g.
L3—9 turns ¾ in. diam. former 20 s.w.g. Link, 2 turns on cold end.
L4—4 turns ¾ in. diam. a./wound 16 gauge.
L4A—20 turns ¾ in. s./t., c.t. 10 turns, 20 s.w.g. Link, 2 turns in centre.
L5, L6—Trap, 3-30 pF. trimmer, 6 turns ¼ in. 16 gauge.
L7—4 turns ½ in. diam. 16 gauge, c.t. 2 turns.
L8—Trap, 35 turns ¼ in. diam., 100 pF.
L9—4 turns ½ in. diam., c.t. 2 turns, 16 gauge.
L10—4 turns ½ in. diam., c.t. 2 turns, 16 gauge.
L11—2 turn link to output.

# A Simple Step Attenuator*

BYRON GOODMAN, W1DX



THE attenuator to be described is for use between antenna and receiver, to reduce overloading by extremely strong signals.[1, 2, 3] Attenuation between 3 and 33 db. can be obtained in 3-db. steps by closing one or more of four slide switches. A more elaborate design might include 1 or 2-db. intervals, but the sole intent here was to make the device simple and inexpensive. Common 10% tolerance composition resistors are used.

Referring to the circuit diagram in Fig. 1, when all of the switches are in the "up" position there is a direct connection between P1 and P2. Moving S1 "down" introduces a 3-db. pi-section pad, moving S2 introduces 6 db. attenuation, and S3 and S4 each add 12 db. attenuation. When two or more switches are "down" the attenuation is the total of the attenuations for the active sections.

It should be noted that the design is based on the assumption that the receiver looks like 50 ohms; if it is higher, the lower values of attenuation will be less than stated above. But just because your receiver doesn't look like 50 ohms (or because you don't know what it looks like) doesn't mean the attenuator won't work; it will, but the attenuation values will be different. So what?

The use of the 12-db. maximum section is based on measurements made when the switches were first installed. They had been wired for the straight-through connections but no attenuating resistors had been installed; an "open circuit" position was available at each switch. Opening one switch, the attenuation was 39 db. (measurement at 28 Mc.). As the switches were progressively opened, the additional attenuation per switch decreased, and opening the last switch introduced only 12 db. additional attenuation over that obtained with three switches open. It is unlikely that the next step (24 db.) is practical with this simple construction, and that's why two 12-db. sections are included.

The unit was built on a piece of 5" x 8" sheet aluminium bent into a 1½" deep and 2" wide channel. The switches are mounted 2" apart. Co-axial line (RG-58/U) was secured at each end by small aluminium cable clamps bent from scrap aluminium. The ends of the co-axial lines were terminated in a BNC plug for the receiver and an SO-239 receptacle and UG-177/U hood for the antenna connection. Obviously these connections would vary with the station and application.

Using a signal generator and receiver for measurements at 28 Mc., no differences in attenuation could be detected with a bottom plate on or off.

Anyone who wishes to confirm the attenuations of the various sections can use a signal generator (it must have an accurate attenuator), an audio oscillator and oscilloscope, or a source of d.c. and a voltmeter.

Connect a 50 ohm resistor or other termination across the output (receiver) plug. The voltage at this point (measured by receiver, oscilloscope or voltmeter) should be 0.71 times the input voltage for the 3-db. section, 0.50 times the input voltage for the 6-db. section, and 0.25 times the input voltage for the 12-db. section. But again, if it doesn't work out right on the button, so what? It will still work and it will help you on more than one occasion when the QRM gets heavy.

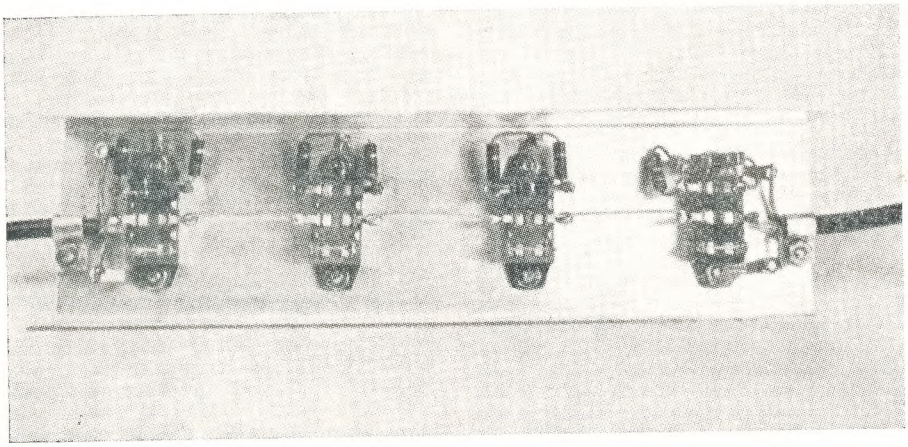
(Anyone interested in a more precise step attenuator—and who has the facilities for measuring r.f. resistance values—can design his attenuator sections from the following:—

$$R_{series} = \frac{A^2 - 1}{2A} R_o$$

$$R_{shunt} = \frac{A + 1}{A - 1} R_o$$

where $R_o$ = characteristic resistance, e.g. 50 ohms.

$A$ = reciprocal of output/input voltage ratio; e.g. 1.414 for 3 db., 2.0 for 6 db., 4.0 for 12 db., and so on.)



Resistor networks for the attenuator are mounted on the switches and grounded to lugs held by the switches. Note outer conductor of co-axial cable is fanned out and grounded either side of switch.

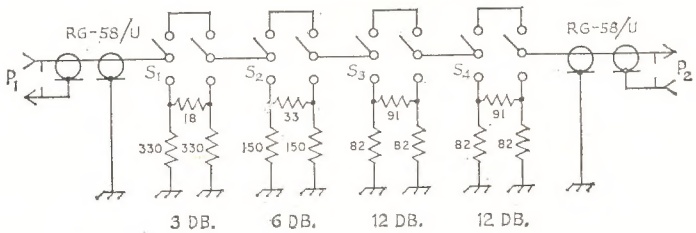



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Fig. 1. — Circuit diagram of the Step Attenuator. All resistors are ½ watt composition.

P1, P2—See text.

S1 to S4—D.p.d.t. slide switches.

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* Reprinted from "QST," August 1967.

1 Andrade, "Recent Trends in Receiver Front-End Design," June, 1962; "A.R.," Jan., 1964.

2 Talley, "Receiver Front-End Attenuator," "QST," January, 1964.

3 "The ITT Mackay Marine 3010-B Receiver," "QST," April, 1967.

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# A MOBILE POWER SUPPLY FOR A GALAXY III.

*G. A. CLIPSHAM,* VK2SJ*

THIS supply, as designed, is large enough to power my transceiver to full output. With minor adaptation it would suit a Swan or similar unit. Using new materials throughout, it cost approximately $45 to build. The design is not necessarily the final word in engineering, and just grew as experiments proceeded. For instance, one half of the supply operates with grounded emitters, whereas the other has grounded collectors; one switches at 1,000 c.p.s., but the other at 350 c.p.s.

If I were starting again I would probably use transformer cores with similar thickness tape, but that would involve changing the turns per volt parameters if they were both to operate at the same switching frequency. However, once I had purchased cores, I decided to use them irrespective, and hence the dissimilarity between the two halves of the supply. Any constructor knowing what he is about could easily adjust this if he wished.

The supply consists of two parts; one providing all voltages except that needed for the final amplifier. Using the data given below, provision is made for 800 volts at 400 mA. (peak), 325 volts at 200 mA., and 100 volts at 35 mA.

Firstly, obtain two H.C.R. toroidal cores, size 7C and 10C, the smaller one with 0.002" tape and the other with 0.004" tape. These are available from Telcon, at 17 Wyndham St., Alexandria, N.S.W., at approximately $5.50 the pair. Both A.R.R.L. Mobile Handbook and "Amateur Radio" for December 1965 cover the winding operations well and the reader is referred to them. However, I found it easier to wind the high voltage, and consequently fine wire, on first, then the heavy primary, and finally any other windings needed.

The primary makes the winding very bumpy and it is better to cover the core with a layer of paper tape (it is easier to lay the turns if a light coloured tape is used) and then insulate each layer as it is put on carefully using an ice-cream stick as a shuttle. Insulate very carefully between the high voltage winding and the primary. Any breakdown here will almost certainly destroy the transistors. Use hook-up wire tails on all the fine windings for convenience and it is a good idea to label each end as you go. It can be very confusing later if they get mixed.

About half a pound each of 14 and 16 s.w.g. and one pound of 27 s.w.g. wire is more than enough. Buy the better gold coloured enamelled insulation; it is much tougher and more durable than the dark coloured stuff.

### WINDING DETAILS

**Small Transformer with 7C Core:**

Primary: 2 x 19 turns wound bifilar—16 s.w.g. d.c.c.
Feedback: 2 x 24 turns wound bifilar—27 s.w.g. enamel.
100 volt winding: 85 turns—27 s.w.g. enamel.
325 volt winding: 325 turns—27 s.w.g. enamel.

**Larger Transformer with 10C Core:**

Primary: 2 x 24 turns wound bifilar—14 s.w.g. d.c.c.
Feedback: 2 x 27 turns wound bifilar—21 s.w.g. enamel.
800 volt winding: 800 turns—27 s.w.g. enamel.

I used 2N441 transistors and six are required. They are available from Anodeon Sales at 443 Concord Road, Rhodes, N.S.W., and whilst ordering procure the necessary diode rectifiers as well, together with three Delco heat sinks, Part No. 7281361. These are very suitable under all conditions and come already drilled for use at about $2.25 each. Incidentally, when ordering don't forget to mention "for use in d.c.-d.c. converters" and sales tax is only 12½%.

Most published circuits specify to use matched transistors when using them in parallel. Otherwise small 0.1 resistors are placed in the common feed to each emitter or collector as necessary. I did not use them as the load split nicely and there was no evidence of uneven heating, but then they are operating under favourable conditions in this design anyway.

The forward bias network used is somewhat unusual and was purloined direct from "CQ" magazine. It uses a 5 ohm resistor in series with a 24 volt 50 mA. lamp. Because the resistance of the lamp is under 50 ohms when cold, a high forward bias is presented to the transistors at switch-on, which makes for instantaneous starting, but once heated, its resistance rises to something like 500 ohms which keeps the primary current very low in the event of a short circuit on the load and eliminates thermal runaway. If suitable lamps are not available, a resistor of 500 ohms should be satisfactory.

The whole supply is housed in a 16 s.w.g. aluminium case about 7" x 6" x 5". This size was dictated by the need to accommodate the heat sinks with their fins running vertically when mounted on the firewall of my Holden car. A wrinkle here worth knowing (VK2BAE passed it on to me): purchase a pint of wrinkle finish paint and half a pint of special thinners from Brolite at Ralph St., Alexandria, cost about $1.50.

A proper spray gun is ideal, but I used a Flit gun with very satisfactory results. First drill all the necessary holes, then remove the components, and degrease the metal in a mild solution of caustic soda for a few minutes. Thoroughly wash and dry, and then spray with a full coat and bake it in the family oven for about half an hour at 265°F. The result is very professional and it won't be long before all your gear sports a similar finish.

My power supply proved to be quite free of noise. I used a small choke in the primary lead as indicated in the circuit, about half an inch in diameter and then cemented a small piece of ferrite core inside to increase its efficiency. Use at least 7/0.0036" wire from the battery. The converter will draw not less than 30 amps. on peaks, so watch that battery, especially if you have an automatic car!

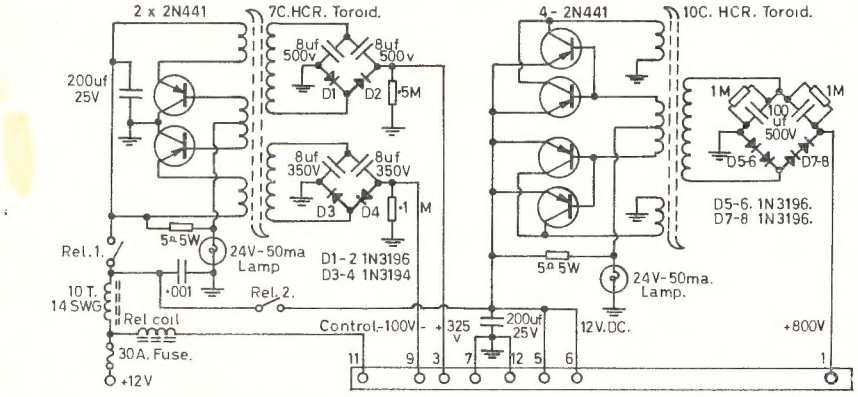


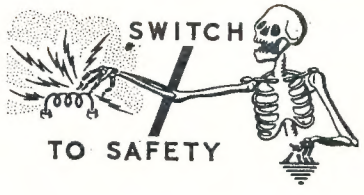

FIG. 1. CIRCUIT FOR DC-DC. POWER SUPPLY FOR GALAXY III.

**ACKNOWLEDGMENT**

Acknowledgment is due to VK2WT and VK4ZAX for helpful assistance.

**ADDITIONAL READING**

A.R.R.L. Mobile Handbook, third edition, pages 180-189.
"Choice of a Magnetic Core for Use in D.C. Converters," Telcon.
"CQ" Magazine, May, June and July, 1963.
"Philips Miniwatt Digest," Vol. 2, Nos. 1, 2, 6 and 9.
"Amateur Radio," Dec. 1965 (this is a must).

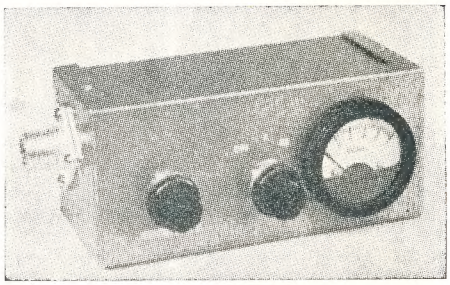



* Rural Bank, Walcha, N.S.W., 2354.

# THE MILLIMATCH*

## A SENSITIVE VERSION OF THE MONIMATCH MARK II.

*LEWIS G. McCOY, W1ICP*



This is the completed Millimatch. At the left is the sensitivity control, R6. S1 is in the centre, and M1 at the right.

IN the last year or so the cost of transistors that can be used in transmitters has dropped to a point where more and more Hams, both newcomers and old timers, are becoming interested in low-powered transistorised rigs. And by low power, we mean transmitters whose output is measured in terms of milliwatts, not watts.

Several very low power transmitters have recently been described in "QST," and our mail bag attests to the popularity of these units. Such equipment is easily portable, and many Hams, particularly v.h.f. operators, have discovered that extremely low power can be lots of fun.

One problem in using very low powered transmitters is the difficulty in making antenna adjustments or checking output when tuning up. There "just ain't any" test equipment available to do the job. The regular garden variety of reflectometer, such as the Monimatch, isn't sensitive enough. The Millimatch, described in this article, provides adequate sensitivity—even for rigs with output levels as low as 10 milliwatts!

### THE MILLIMATCH—WHAT IT IS

The Millimatch is similar to the Monimatch Mark II.,[1] except that a transistor current amplifier has been added. Fig. 1 is the circuit of the Millimatch. Of all the reflectometers that have been described since the original Monimatch, the Mark II. is one of the best designs for accuracy of readings at v.h.f., up to and including the 144 Mc. band. For the benefit of the newcomer who is not familiar with reflectometers, a short description is in order.

When you attach a co-axial line of, say, 50 ohms characteristic impedance to an antenna and feed power through it to the antenna, a certain amount of power will be reflected back down the line toward the transmitter if the impedance of the antenna is anything other than 50 ohms. The larger the difference between the impedance of the line and the impedance of the antenna, the greater the ratio of reflected power to forward power. One method of checking this ratio is with a reflectometer, which, when inserted in the co-ax. line, in effect samples the forward and reflected voltages separately. From these relative voltage values the relative forward and reflected power, as well as the standing wave ratio on the line, can be determined.

Referring to Fig. 1, the J1 end of the Millimatch is connected to the transmitter and the J2 end to the antenna. When the transmitter is turned on, r.f. current flowing along the conductor between the fittings induces voltages in L1 and L2. The voltage induced in L1 is proportional to the forward line voltage, and the voltage induced in L2 is proportional to the reflected line voltage. The L1 voltage is rectified by CR1, and the d.c. is applied to the base of Q1. Q1 amplifies this d.c., which is then read on M1. When S1 is switched to read reflected voltage, the voltage in L2 is rectified by CR2 and fed through the amplifier.

The standing wave ratio on the co-axial line is found by first switching S1 to read forward voltage and adjusting sensitivity control, R6, so that M1 reads exactly full scale; then S1 is switched to reflected voltage and the reading noted. Let's assume the meter is calibrated from 0 to 10 in even divisions. The formula for determining the s.w.r. is quite simple:—

$$SWR = \frac{V_0 + V_R}{V_0 - V_R}$$

where $V_0$ is the forward voltage and $V_R$ is the reflected voltage. For example, suppose that we set R6 so that M1 reads full scale, or 10, in the forward position, and when we switch to reflected we have a reading of 3. This would amount to

$$\frac{10 + 3}{10 - 3} = \frac{13}{7} = 1.8 \text{ to } 1.$$

However—and this is a point that some Amateurs overlook—many reflectometers are not truly accurate instruments for measuring s.w.r. They are excellent for showing when a matched condition (an s.w.r. of 1 to 1) exists, but under any other condition the voltage readings are not dependable, because of poor linearity of the diode rectifiers used at CR1 and CR2. If the diodes were perfectly linear over the entire range of reflected and forward voltages being measured, the formula above would give accurate s.w.r. checks. If sufficient resistance is used in series with the diodes, their output tends to become more linear, but the sensitivity is reduced. We used R4 and R5 to improve the accuracy, and the loss in sensitivity is more than made up for by the amplifier, Q1.

In the Millimatch, another factor that gets into the act to upset the accuracy of s.w.r. readings is the linearity of the transistor used as an amplifier. However, regardless of the accuracy of s.w.r. readings, the bridge is excellent for showing when a match is achieved. Additionally, by setting S1 in the forward position, the relative r.f. output of the transmitter can be observed on M1. This is a valuable tool when tuning up a transmitter.

### CONSTRUCTION INFORMATION

The Millimatch is enclosed in a $2\frac{1}{4}$" x $2\frac{1}{4}$" x 5" minibox. The transmission-line section consists of an inner conductor (a piece of $\frac{1}{4}$" o.d. copper tubing, $4\frac{5}{8}$" long) and two pieces of copper flashing for the outer conductor. These two pieces measure 1" wide and $4\frac{7}{8}$" long, plus a $\frac{1}{4}$" lip at each end for mounting under the screws that secure J1 and J2. Separation between the copper strips and inner conductor is maintained by two insulated spacers, Fig. 2. These spacers also serve to space the pickup wires L1 and L2 at the correct distance from the inner conductor.

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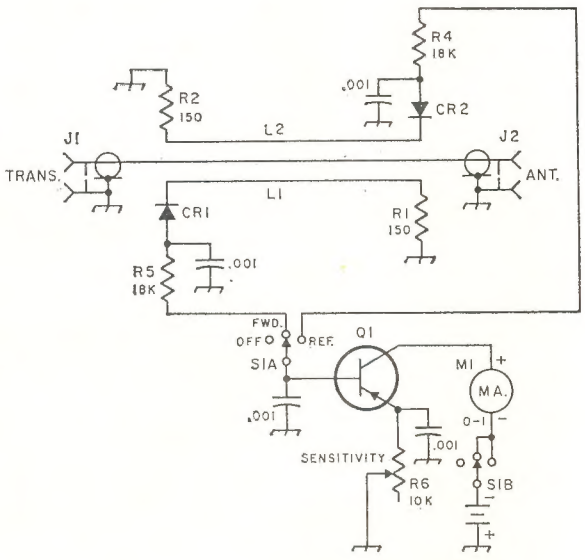


Fig. 1.—Circuit diagram of the Millimatch. Resistances are in ohms (K equals 1,000). The 0.001 uF. capacitors are disc ceramics.

CR1, CR2—1N34A germanium diodes.

J1, J2—Co-ax. chassis receptacle, type SO-239.

L1, L2—See text.

M1—0-1 milliammeter. A more sensitive type can be used, but is not required.

R1, R2—150 ohms, ½ watt carbon or composition for 50 ohm bridge, 100 ohms for 75 ohm unit.

R4, R5—18,000 ohms, ½ watt.

R6—10,000 ohm control, miniature type.

S1—2-pole, 3-position switch.

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* Reprinted from "QST," August 1967.

1 McCoy, "Monimatch Mark II.," "QST," Feb. 1957; "A.R.," April 1957.

Any available insulating material of reasonably low loss, such as bakelite or polystyrene, can be used for the spacers.

Mounted on the front of the minibox are M1, S1 and R6. Almost any of the miniature panel meters available from radio distributors can be used for M1 as long as they don't protrude more than 1¼" behind the panel. We checked several types and found that most of them protruded 1" or less.

Mount J1 and J2 as close to the rear of the minibox as possible, as shown in the photographs. Slide the spacers over the copper tubing and then tin the inside ends of the tubing with solder. Also tin the inner-conductor terminals of J1 and J2. Slide the ends of the tubing over the conductor terminals and solder. You can then mount the copper strips in place.

The pickup wires, L1 and L2, are 3⅜" lengths of No. 14 tinned wire. The wires are centered in the spacers as shown in the photograph and cemented in place with Duco cement.

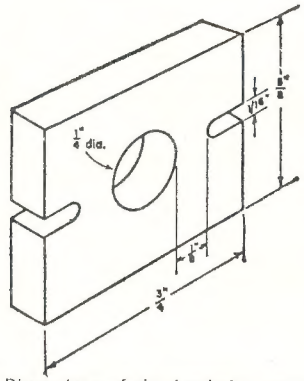


Fig. 2.—Dimensions of the insulating spacers used to hold bridge wires and outer conductor strips in place.

R1 and R2 are ½ watt resistors and must be carbon or composition, **not** wire-wound. For a 50 ohm bridge, use 150 ohm resistors, and for a 75 ohm unit, use 100 ohm resistors. (No, that last isn't a typographical error!) The ends of the resistors that are soldered to L1 and L2 are ¼" long. Tin the ends of the pickup wires and the ends of the resistors with solder and solder the resistors in place. Don't overheat the resistor as too much heat can change the value. The remaining ends of the resistors are soldered to lugs mounted under screws that hold J1 and J2, keeping the leads as short as possible.

When connecting CR1 and CR2 to the pickup wires, use a heat sink on the lead between the body of the diode and the lead being soldered. Too much heat can easily ruin the diode.

We used a transistor socket for mounting Q1, but it could be mounted by its own leads if desired. The 1½ volt battery was installed by soldering wires to both ends, no holder being used. Some penlite cells have a pressure-type contact at the base, or negative, end. This is a circular plate that must have pressure on it to make contact. If you get that type battery, take a knife and slice away the plate to get at the actual base of the battery.

Almost any p.n.p. type transistor will work for Q1. We tried several types from the junk box—2N114, 2N117, 2N705, and 4JD1A67—and they all had more than adequate gain. As a matter of fact, we had removed about 50 different transistors from surplus computer boards, and every p.n.p. type had adequate gain for full-scale deflection of M1 with 25 milliwatts input at 28 Mc.

### TESTING AND USING THE MILLIMATCH

Connect the Millimatch to your transmitter, using 50 or 75 ohm co-ax. as required. Leave the antenna end of the bridge unconnected. Turn on the rig, switch S1 to forward and set the sensitivity for about half-scale reading. Next, switch to reflected. The readings for forward and reflected should be about the same. Next, if you want to check the accuracy of the bridge, connect a 1 watt carbon resistor of the appropriate value, 50 or 75 ohms, between the inner hole and outer shell of J2. Switch S1 to forward and adjust the sensitivity to full scale. Then switch to reflected and the reading should drop to zero.

You may find that when you first turn on the Millimatch, you will get a slight reading on the meter without the transmitter being on. This is the "no-signal current" in the transistor. Whatever the no-signal current reading is, and it will be very small, assume this value as "zero" when the transmitter is turned on and worked into a matched load.

You can check the accuracy of the s.w.r. readings with the formula previously mentioned by using dummy load resistances of various values. For example, a 150 ohm resistor will represent a 3 to 1 s.w.r. with a 50 ohm bridge.

As we stated earlier, the Millimatch will enable you to match your antenna system, and just as important, provide an excellent output indicator for that flea-power rig.

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This shot shows the "innards" of the Millimatch. Pickup line L1 is mounted in the grooves on the insulated spacers. CR1 is at the left. At the right, just in front of the sensitivity control, is Q1 in its socket. The 1½ volt penlite cell is at the rear.

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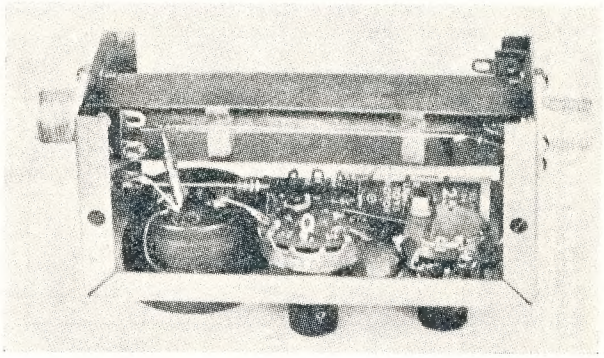

## CHANGE IN RADIO SYSTEM FOR LOW POWERED M.F. AND H.F. RADIOTELEPHONE SERVICES

**(Statement by the Director-General Posts and Telegraphs)**

The Director-General, Posts and Telegraphs, Mr. T. A. Housley, announced recently that following discussions between representatives of the Post Office, the Royal Flying Doctor Service, other outpost services, and the radio industry, it has been agreed that radio stations in the outpost networks should change from double-sideband to single-sideband radio transmission.

He said that the programme agreed upon for the change provided for all control stations in the outpost services to be equipped for operation on single-sideband by 1st July, 1970. They would operate both d.s.b. and s.s.b. equipment over the following five years until 1975. In addition, all outpost stations will be required to install s.s.b. equipment during this five-year period. The use of double-sideband transmissions would be discontinued as from 30th June, 1975.

Mr. Housley explained that the need for such a change arose because of the heavy demand in Australia and other parts of the world for new radio stations to be accommodated in the medium and high frequency bands.

He said that it was important that a service such as the R.F.D.S., on which so many people in the outback depended, should operate under the best possible conditions.

The increasing demand for radio services was already causing a serious overcrowding of frequencies and unless the change from d.s.b. was made a chaotic situation could eventually occur.

The Director-General said that many of the existing lower powered, double-sideband transmitters and receivers had already been in use for many years and would in any case be due for replacement in the near future.

Mr. Housley added that in the circumstances the Post Office considered that the time was now most suitable to implement a conversion from double to single-sideband operations for all medium and high frequency, lower powered radiotelephone services.

The conversion would affect fifteen major control stations including twelve in the Royal Flying Doctor Service, and about 4,500 outpost stations, both fixed and mobile, operating across two-thirds of the continent.

The other outpost services involved included those of the Bush Church Aid Society (Ceduna, South Australia), the Queensland Ambulance Transport Brigade (Cairns Division), and the services based on the O.T.C. coast station at Darwin.

Mr. Housley said that the conversion would be the first major change in the system of radio communication used by outpost services since radiotelephony replaced the earlier experimental Morse systems introduced by the Australian Inland Mission nearly forty years ago.

The adoption of the new system paralleled similar developments overseas and fell into line with recommendations made by a committee of the International Telecommunications Union and the Frequency Allocation Review Committee which was set up under the chairmanship of Sir Leonard Huxley by the Australian Government in 1960.

Both committees reported that one of the most important methods of achieving economy in the use of the high frequency spectrum was in the replacement of double-sideband by single-sideband systems and discontinuance of the use of double-sideband systems by 1970.

The Director-General pointed out that all Australian high-powered fixed services have been operating in accordance with these recommendations for some years, but because of the higher cost and limited availability of suitable single-sideband equipment the Post Office had deferred action on until now to extend the change to the lower powered services. Single-sideband transmitters and receivers were now readily available at a more economical price.

[This change does not apply to the Amateur Service.—Ed.]

# SSB

Sub-Editor: PHIL WILLIAMS, VK5NN
37 Winns Rd., Coromandel Valley, 5051

## SIDEBANDERS GATHERING

The planned Sidebanders Gathering at Hamilton, Vic., for the long week-end at the end of January 1968 looks as if it will be successful again, and Ern VK3AEM informs me that bookings are coming in fairly quickly now. By the time these notes are published the accommodation available at Hamilton may be all reserved and any others wishing to attend will probably have to make their own arrangements for accommodation at neighbouring towns or bring their own caravans.

## THE SIDEBAND LIST

Perhaps some of the newer sidebanders may not be aware that Comps VK5EF, one of our oldest exponents of the s.s.b. art, keeps a very complete log of all VK Amateurs on s.s.b. and their equipment. If you are not sure whether you are listed or not, drop him a line telling him your call, handle, equipment, antennae and any other relevant details of your operating habits.

Comps tells me there are now over 1,000 VK Amateurs using s.s.b. The transmitting gear at VK5EF is all s.s.b. now, even for 6 and 2 metres. There must be quite a number of Z-call sidebanders not listed by Comps—so I suggest the v.h.f. gang in each State should collate the statistics on known users of s.s.b. and send it along. In a few months time we may try to extract and publish figures of various State numbers and types of equipment in use.

I understand that a suitable number is being reserved for a well known VK5 Amateur when he finally goes sideband—as we all feel he must with the efflux of time—if he is to have any contacts at all on the air.

## LOCAL POWER SUPPLIES FOR TRANSCEIVERS

A few tips are in order for those who wish to construct power supplies for imported transceivers. I prefer to use one transformer to supply the filaments (usually 12 volts a.c. at up to 6 amps.) and bias supply (voltage double from a 40v. winding). Another transfomer is then used to supply the 700 to 800 volts for the final by full wave bridge rectifying a 300-0-300 volt winding into a large capacitive filter of more than 50 microfarads. The minor h.t. required is usually then obtained from the centre-tap of the same transformer through a two-section choke input filter to give about 260 volts.

The minor h.t. on some of the transceivers is rather hungry, requiring some 200 milliamps., so one should always use a good solidly rated secondary winding on this transformer. These may be a bit hard to find and so two similar transformers, such as the old 285 per side "Henderson" of 120 to 150 mills. rating each, may be paralleled to give enough current. (N.B.—385 volts is usually too much.)

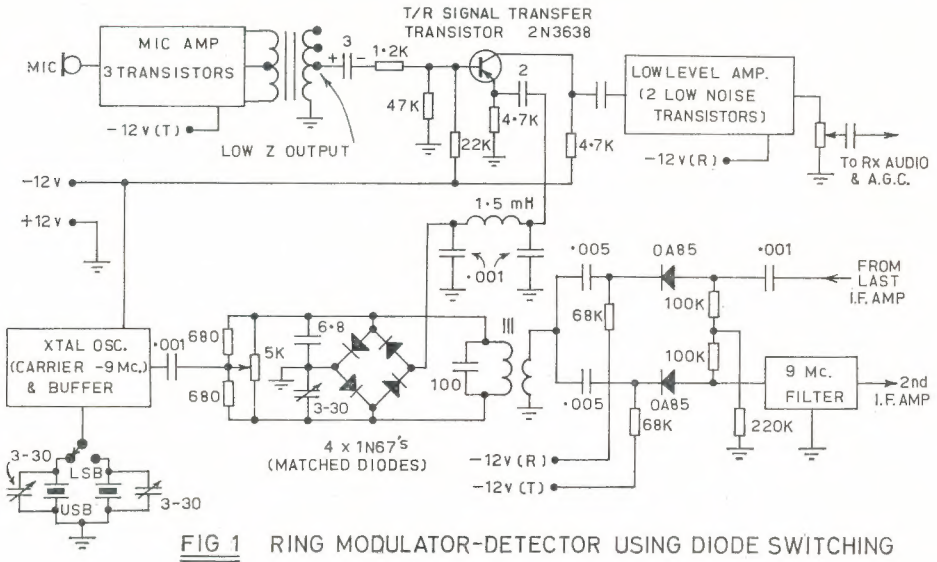


FIG 1 RING MODULATOR-DETECTOR USING DIODE SWITCHING

Silicon diodes are a "must" for these supplies, as vacuum type rectifiers will not supply large capacitive filters for s.s.b. finals and still reach old age.

Please remember that the filament voltage on the final tubes must be well up if peak output from the transceiver is to be maintained. Keep it up to 12.6 to 13 volts at the socket so that it is never low when the line volts are down, e.g. at tea time on a cold night. The screen voltage on the final tubes should never be too high as tubes such as the 6DQ5 can become soft if abused too frequently. The screens should not be run with excessive voltage or current. The current drawn by the screens is determined by the loading of the final and this must be done in accordance with the instruction manual. When in doubt, heavy loading is better than light loading—as far as the tubes are concerned.

## THE RING MODULATOR-DETECTOR

This idea may be of use to those who wish to use 9 Mc. crystal filters in transistorised s.s.b. transceivers. It came to me via the N.Z.A.R.T. magazine, "Break-In," for Dec. 1966. ZL-4IO described (p. 343) a diode ring modulator-detector with diode switching from receive to transmit. Fig. 1 gives a simplified diagram of the arrangement for the experimenters.

Switching the 12 volt negative supply to the appropriate audio amplifiers and diodes, changes over from receive to transmit.

The unit described was built using a McCoy silver sentinel filter, with all of the amplifiers in the block diagram on a small chassis about 7 inches by 4 inches.

73 for now, Phil VK5NN.

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# A 3-TRANSISTOR AUDIO COMPRESSOR*

CAPTAIN PAUL H. LEE, W3JHR

**This simple compressor can be a boon to the s.s.b. operator since it will keep up the average level and talk power and prevent over-drive and splatter.**

IN the days of a.m., overmodulation caused splatter due to negative modulation peak chopping. In the modern days of s.s.b. too much audio also causes splatter, but due to over-driving of the linear amplifier stages in an s.s.b. transmitter, and the consequent generation of non-linearity products. Some s.s.b. transmitters have automatic level control (a.l.c.), but this may not always be effective in preventing over-driving. Here at W3JHR I decided to use an audio compressor amplifier to prevent over-driving, not only of the final amplifier but of all other stages in the transmitter as well. When I had the 1 kw. a.m. transmitter, I used a compressor[1] employing vacuum tubes. This was sold, however, and so I decided to build one using transistors.

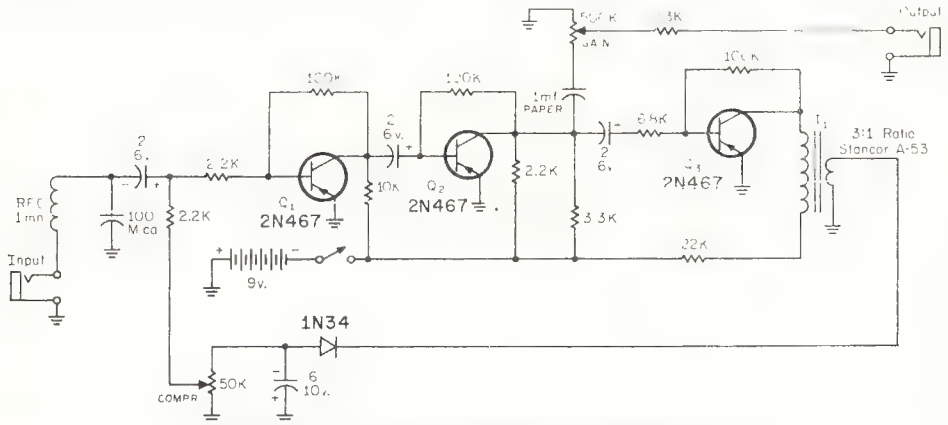


Fig. 1.—Circuit of the W3JHR Audio Compressor.
The transistors are all 2N467 and the compression pot is a log taper.

## CIRCUIT

The circuit of this simple unit is shown in Fig. 1. Three type 2N467 transistors are used. Two of them are the audio amplifier which drives the transmitter. The third is the audio amplifier which drives the 1N34 diode to produce the d.c. bias for gain control of the first stage. The unit is powered from a 9 volt battery. The type of battery commonly used in transistor radios can be used, but I prefer to use six 1½ volt flashlight batteries in series, because they last longer.

## CONSTRUCTION

The compressor can be built in many ways. It can be built into a beer can, for example, with an input jack on one end and the output jack on the other end. The microphone can be plugged into the input end, and a length of shielded cable can then be run from the output jack of the compressor to the input jack of the transmitter. I built my unit in a 6 x 6 x 6 inch aluminium box, which is in turn mounted on my audio control and phone patch panel in my station console. The batteries are contained in the box.

Another way of building the unit would be to mount the components on a printed circuit board, and to find room for it inside the s.s.b. exciter, and to power it from 9 volts d.c. stolen from the exciter's plate supply. It could then be permanently wired in to the exciter, or connected to a front panel switch which could be labelled "compressor in/out".

## COMPONENTS

The components are of course small. Half-watt resistors are used, and the small 6 and 10 volt electrolytic capacitors are employed. An r.f. choke is included in the input circuit for the obvious purpose of protecting the input transistor from stray r.f. which it will rectify very beautifully. The only large component is the 3 to 1 audio transformer which drives the diode rectifier, and that is a Stancor A53 unit, which I used merely because I happened to have it in my junk box. No doubt a miniature type of 3 to 1 ratio could also be found and used. The bias control potentiometer, which controls the amount of compression, is a logarithmic taper which gives a smoother control of the compression than would a linear type.

## GENERAL

There isn't much more that can be said about the unit itself because it is so simple. It has proven its worth many times, in providing a high average level of voice signal on s.s.b. with excellent "talk power," while at the same time preventing over-driving of the various stages in the exciter. It is particularly useful in this regard when running phone patches, because of the wide variations in audio level obtained from the party on the other end of the phone line. The unit has a fast attack time and a fairly slow release time, which is ideal for voice use. I heartily recommend its construction and use by those who desire to improve their s.s.b. signals.

* Reprinted from "CQ," July 1967.
1 Lee, P. H., LCDR, "More Modulation per Dollar," "CQ," August 1952, page 19.

# Tinned Fuse Wire—Fusing Current and Time Values

| Approx. Diam. (inches) | S.W.G. | Fusing Current (amp.) | Fusing Time (seconds) | Work. Current (amp.) |
|---|---|---|---|---|
| 0.114 | 9 | | | |
| 0.128 | 10 | | | |
| 0.116 | 11 | 405 | | |
| 0.104 | 12 | 344 | | |
| 0.092 | 13 | 286 | | |
| 0.086 | 14 | 232 | 29 | 77 |
| 0.072 | 15 | | | |
| 0.064 | 16 | 166 | 23 | 55 |
| 0.056 | 17 | | | |
| 0.048 | 18 | 108 | 18 | 36 |
| 0.040 | 19 | | | |
| 0.036 | 20 | 70 | 14 | 23 |
| 0.032 | 21 | 58 | 12 | 19 |
| 0.028 | 22 | 48 | 11 | 16 |
| 0.024 | 23 | 40 | 10 | 13 |
| 0.022 | 24 | 33 | 8 | 11 |
| 0.020 | 25 | 28.5 | 8 | 9.5* |
| 0.018 | 26 | 25.0 | 7 | 8.0 |
| 0.0164 | 27 | 22.2 | 7 | 7.4 |
| 0.0148 | 28 | 18.0 | 6 | 6.0 |
| 0.0136 | 29 | 16.8 | 5.5 | 5.6 |
| 0.0124 | 30 | 14.0 | 5 | 4.7† |
| 0.0116 | 31 | 12.7 | 5 | 4.2 |
| 0.0108 | 32 | 11.5 | 5 | 3.8 |
| 0.0100 | 33 | 10.2 | 4.6 | 3.4 |
| 0.0092 | 34 | 9.0 | 4.5 | 3.0‡ |
| 0.0084 | 35 | 7.9 | 4.4 | 2.6 |
| 0.0076 | 36 | 6.8 | 4.2 | 2.3 |
| 0.0068 | 37 | 5.7 | 4.1 | 1.9 |
| 0.0060 | 38 | 4.8 | 3.7 | 1.6 |
| 0.0052 | 39 | 3.8 | 3.5 | 1.3 |
| 0.0048 | 40 | 3.4 | 3.4 | 1.1 |
| 0.0044 | 41 | 3.0 | 3.3 | 1.0 |
| 0.0040 | 42 | 2.6 | 3.2 | 0.9 |
| 0.0036 | 43 | 2.2 | 3.2 | 0.7 |
| 0.0032 | 44 | 1.9 | 3.2 | 0.6 |
| 0.0028 | 45 | 1.6 | 3.2 | 0.5 |
| 0.0024 | 46 | 1.3 | 3.2 | 0.4 |
| 0.0020 | 47 | 1.0 | 3.2 | 0.3 |
| 0.0016 | 48 | | | |
| 0.0012 | 49 | | | |
| 0.0010 | 50 | | | |

* 10 amp. fuse wire.
† 5 amp. fuse wire.
‡ 3 amp. fuse wire.

**Notes:**

(a) Time figures are based on tests made — being approximate time from application of F.C. to cold wires until fusing of same.

(b) Maximum Working Current equals **Fusing Current ÷ 3**, based on tests made.

(c) Table figures apply to single tinned Cu wire in commercial fuse holders, open or tube type, where wires are not in close fitting to non-conductor of heat.

For commercial holders where wire is closely surrounded by a non-conductor of heat, e.g. asbestos braid, multiply table figures by 0.75.

(d) For parallel strands twisted in single fuse holders of the open type, multiply the table figures by the following factors:

| Strands: | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Factor: | 1.0 | 1.67 | 2.33 | 3.0 |
| Strands: | 5 | 6 | 7 | 8 |
| Factor: | 3.67 | 4.33 | 5.0 | 5.67 |
| Strands: | 9 | 10 | 11 | 12 |
| Factor: | 6.33 | 7.0 | 7.67 | 8.33 |

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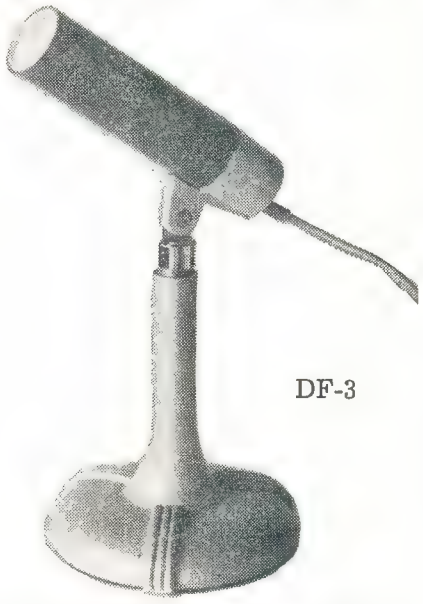

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# AUSTRALIAN DX CENTURY CLUB AWARD

**OBJECTS**

1.1 This Award was created in order to stimulate interest in working DX in Australia and to give successful applicants some tangible recognition of their achievements.

1.2 This Award, to be known as the "DX Century Club" Award, will be issued to any Australian Amateur who satisfies the following conditions.

1.3 A certificate of the Award will be issued to the applicants who show proof of having contacted one hundred countries, and will be endorsed as necessary, for contacts made using only one type of emission.

**REQUIREMENTS**

2.1 Verifications are required from one hundred different countries as shown in the Official Countries List.

2.2 The Official Countries List will be published annually in "Amateur Radio" and will be amended from time to time as required. Should a country be deleted from the Countries List at any time, members and intending members will be credited with such country if the date of contact was before such deletion.

2.3 The commencing date for the Award is 1st January 1946. All contacts made on or after this date may be included.

**OPERATION**

3.1 Contacts must be made in the H.F. Band (Band 7) which extends from 3 to 30 Mc., but such contacts must only be made in the authorised Amateur Bands in Band 7.

3.2 All contacts must be two-way contacts on the same band. Cross band contacts will not be allowed.

3.3 Contacts may be made using any authorised type of emission for the band concerned.

3.4 Credit may only be claimed for contacts with stations using regularly-assigned Government call signs for the country concerned.

3.5 Contacts made with ship or aircraft stations will not be allowed, but land-mobile stations may be claimed provided their specific location at the time of contact is clearly shown on the vertification.

3.6 All stations must be contacted from the same call area by the applicant, although if the call sign is subsequently changed, contacts will be allowed under the new call sign providing the applicant is still in the same call area.

3.7 All contacts must be made when operating in accordance with the Regulations laid down in the "Handbook for the Guidance of Operators of Amateur Wireless Stations" or its successor.

**VERIFICATIONS**

4.1 It will be necessary for the applicant to produce verifications in the form of QSL cards or other written evidence showing that two-way contacts have taken place.

4.2 Each verification submitted must be exactly as received from the station contacted, and altered or forged verifications will be grounds for disqualification of the applicant.

4.3 Each verification submitted must show the date and time of contact, type of emission and frequency band used, the report and the location or address of the station at the time of contact.

4.4 A check list must accompany every application setting out the details for each claimed station in accordance with the details required in Rule 4.3.

**APPLICATIONS**

5.1 Applications for membership shall be addressed to the Federal Awards Manager, Box 2611W, G.P.O., Melbourne, Vic., 3001, accompanied by the verifications and the check list with sufficient postage enclosed for their return to the applicant, registration being included if desired.

5.2 A nominal charge of 25c, which shall also be forwarded with the application, will be made for the issue of the certificate to successful applicants who are non-members of the Wireless Institute of Australia.

5.3 Successful applicants will be listed periodically in "Amateur Radio". Members of the D.X.C.C. wishing to have their verified country totals, over and above the one hundred necessary for membership, listed will notify these totals to the Federal Awards Manager.

5.4 In all cases of dispute, the decision of the Federal Awards Manager and two officers of the Federal Executive of the W.I.A. in the interpretation and application of these Rules shall be final and binding.

5.5 Notwithstanding anything to the contrary in these Rules, the Federal Council of the W.I.A. reserves the right to amend them when necessary.

---

# AUSTRALIAN V.H.F. CENTURY CLUB AWARD

**OBJECTS**

1.1 This Award has been created in order to stimulate interest in the V.H.F. bands in Australia, and to give successful applicants some tangible recognition of their achievements.

1.2 This Award, to be known as the "V.H.F. Century Club" Award, will be issued to any Australian Amateur who satisfies the following conditions.

1.3 Certificates of the Award will be issued to the applicants who show proof of having made one hundred contacts on the V.H.F. bands, and will be endorsed as necessary, for contacts made using only one type of emission.

**REQUIREMENTS**

2.1 Contacts must be made in the V.H.F. Band (Band 8) which extends from 30 to 300 Mc., but such contacts must only be made in the authorised Amateur Bands in Band 8.

2.2 In the case of the authorised bands between 30 and 100 Mc., verifications are required from one hundred different stations at least seventy of which must be Australian. The Amateur Bands 50 to 54 Mc. and 56 to 60 Mc. will be counted as one band for the purposes of the Award.

2.3 In the case of the authorised Amateur Band between 100 to 200 Mc. and any authorised band between 200 to 300 Mc., verifications from one hundred different stations for each band is required.

2.4 It is possible under these rules for one applicant to receive three certificates, one for each of the authorised Amateur Bands nominated in Rules 2.2 and 2.3.

2.5 The commencing date for the Award is 1st June, 1948. All contacts made on or after this date may be included.

**OPERATION**

3.1 All contacts must be two-way contacts on the same band, and cross band contacts will not be allowed.

3.2 Contacts may be made using any authorised type of emission for the band concerned.

3.3 Fixed stations may contact portable/mobile stations and vice versa, but portable/mobile station applicants must make their contacts from within the same call area.

3.4 Applicants, when operating either portable/mobile or fixed, may contact the same station licensee, but may not include both contacts for the same type of endorsement.

3.5 Applicants may only count one contact for a station worked as a limited licensee with a Z call sign who is subsequently contacted as a full A.O.C.P. holder.

3.6 All stations must be contacted from the same call area by the applicant, although if the applicant's call sign is subsequently changed, contacts will be allowed under the new call sign providing the applicant is still in the same call area.

3.7 All contacts must be made when operating in accordance with the Regulations laid down in the "Handbook for the Guidance of Operators of Amateur Wireless Stations" or its successor.

**VERIFICATIONS**

4.1 It will be necessary for the applicant to produce verifications in the form of QSL cards or other written evidence showing that two-way contacts have taken place.

4.2 Each verification submitted must be exactly as received from the station contacted, and altered or forged verifications will be grounds for disqualification of the applicant.

4.3 Each verification submitted must show the date and time of contact, type of emission and frequency band used, the report and the location or address of the station at the time of contact.

4.4 A check list must accompany every application setting out the following details:—

4.4.1 Applicant's name and call sign, and whether a member of the W.I.A. or not.

4.4.2 Band for which application is made, and whether special endorsement is involved.

4.4.3 Where applicable, the date of change of call sign and previous call sign.

4.4.4 Details of each contact as required by Rule 4.3.

4.4.5 The applicant's location at the time of each contact if portable/mobile operation is involved.

4.4.6 Any relevant details of any contact about which some doubt might exist.

**APPLICATIONS**

5.1 Applications for membership shall be addressed to the Federal Awards Manager, Box 2611W, G.P.O., Melbourne, Vic., 3001, accompanied by the verifications and the check list with sufficient postage enclosed for their return to the applicant, registration being included if desired.

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5.5 Notwithstanding anything to the contrary in these Rules, the Federal Council of the W.I.A. reserves the right to amend them when necessary.

# AUSTRALIAN D.X.C.C. COUNTRIES LIST

| | Phone | C.W. |
|---|---|---|
| AC3 Sikkim | | |
| AC4 Tibet | | |
| AC5 Bhutan | | |
| AP East Pakistan | | |
| AP West Pakistan | | |
| BV (C3) Formosa | | |
| BY (C) China | | |
| CE Chile | | |
| CE9, KC4, LU-Z, VK0, VP8, ZL5 etc., Antarctica | | |
| CE0A Easter I. | | |
| CE0X St. Felix I. | | |
| CE0Z J. Fernandez Arch. | | |
| CM, CO Cuba | | |
| CN2, 8, 9 Morocco | | |
| CP Bolivia | | |
| CR3 Portuguese Guinea | | |
| CR4 Cape Verde Is. | | |
| CR5 Principe, Sao Thome | | |
| CR6 Angola | | |
| CR7 Mozambique | | |
| CR8, 10 Port. Timor | | |
| CR9 Macao | | |
| CT1 Portugal | | |
| CT2 Azores | | |
| CT3 Madeira Is. | | |
| CX Uruguay | | |
| DJ, DL, DM Germany | | |
| DU Philippine Is. | | |
| EA Spain | | |
| EA6 Balearic Is. | | |
| EA8 Canary Is. | | |
| EA9 Ifni | | |
| EA9 Rio de Oro | | |
| EA9 Spanish Morocco | | |
| EA0 Spanish Guinea | | |
| EI Rep. of Ireland | | |
| EL Liberia | | |
| EP, EQ Iran | | |
| ET2, 3, 9E Ethiopia | | |
| F France | | |
| FB8 A'dam & St. Paul Is. | | |
| FB8 Crozet Is. | | |
| FB8 Kerguelen Is. | | |
| FC Corsica | | |
| FG7 Guadeloupe | | |
| FH8 Comoro Is. | | |
| FK8 New Caledonia | | |
| FL8 Fr. Somaliland | | |
| FM7 Martinique | | |
| FO8 Clipperton I. | | |
| FO8 Fr. Oceania | | |
| FO8 Maria Theresa | | |
| FP8 St. Pierre & Miq. Is. | | |
| FR7 (from 25/6/60) Glorioso I. | | |
| FR7 (from 25/6/60) Juan de Nova and Europa Is. | | |
| FR7 Reunion I. | | |

| | Phone | C.W. |
|---|---|---|
| FR7 Tromelin Is. | | |
| FS7 Saint Martin | | |
| FU8, YJ1, 8 New Hebrides | | |
| FW8 Wallis & Futuna Is. | | |
| FY7 Fr. Guiana & Inini | | |
| G England | | |
| GC Guernsey and Deps. | | |
| GC Jersey I. | | |
| GD Isle of Man | | |
| GI Northern Ireland | | |
| GM Scotland | | |
| GW Wales | | |
| HA Hungary | | |
| HB Switzerland | | |
| HB0 (HE) Liechtenstein | | |
| HC Ecuador | | |
| HC8G Galapagos Is. | | |
| HH Haiti | | |
| HI Dominican Rep. | | |
| HK, 5J Colombia | | |
| HK0 Arch. of San Andres and Providencia | | |
| HK0 Bajo Nuevo | | |
| HK0 Malpelo Is. | | |
| HL, HM Korea | | |
| HP Panama | | |
| HR Honduras | | |
| HS Thailand | | |
| HV Vatican | | |
| I1, IT1 Italy | | |
| IS1 Sardinia | | |
| JA, KA Japan | | |
| JT1 Mongolia | | |
| JY Jordan | | |
| K, W U.S.A. | | |
| KA0, KG6I Bonin & Volcano Is. | | |
| KB6 Baker, Howland and Am. Phoenix I. (inc. Canton I.) | | |
| KC4 Navassa I. | | |
| KC6 Eastern Caroline Is. | | |
| KC6 Western Caroline Is. | | |
| KG4 Guantanamo Bay | | |
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| KJ6 Johnston I. | | |
| KL7 Alaska | | |
| KM6 Midway Is. | | |
| KP4 Puerto Rico | | |
| KP6 Palmyra Group, Jarvis I. | | |
| KR6 Ryukyu Is. | | |
| KS4B Ser'na Bank & Roncad Cay | | |
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| LX | Luxembourg | |
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| MP4Q | Qatar | |
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| OH | Finland | |
| OH0 | Aland Is. | |
| OK | Czechoslovakia | |
| ON4 | Belgium | |
| OX, KG1, XP | Greenland | |
| OY | Faeroes | |
| OZ | Denmark | |
| PA0, PI1 | Netherlands | |
| PJ | Neth. West Indies | |
| PJ2M | Sint Maarten | |
| PX | Andorra | |
| PY | Brazil | |
| PY0 | Fernando de Noronha | |
| PY0 | St. Peter & Paul Rocks | |
| PY0 | Trindade & Martin Vaz Is. | |
| PZ1 | Netherlands Guiana | |
| SL, SM | Sweden | |
| SP | Poland | |
| ST2 | Sudan | |
| SU | Egypt | |
| SV | Crete | |
| SV | Dodecanese | |
| SV | Greece | |
| TA | Turkey | |
| TF | Iceland | |
| TG | Guatemala | |
| TI | Costa Rica | |
| TI9 | Cocos I. | |
| TJ (FE8) | Cameroon Rep. | |
| TL8 (from 13/8/60) | Cen. Afric. R. | |
| TN8 (from 15/8/60) | Congo Rep. | |
| TR8 (from 17/8/60) | Gabon Rep. | |
| TS (3V8) | Tunisia | |
| TT8 (from 11/8/60) | Chad Rep. | |
| TU2 (fr. 7/8/60) | Ivory Coast Rep. | |
| TY2 (fr. 1/8/60) | Dahomey Rep. | |
| TZ2 (from 20/6/60) | Mali Rep. | |
| UA, UV, UW1-6, UN1 | Eur. R.S.F.S.R. | |
| UA1 | Franz Josef Land | |
| UA2 | Kaliningrad Region | |
| UA, UW9, 0 | Asiatic R.S.F.S.R. | |
| UB5, UT5, UY5 | Ukraine | |
| UC2 | White Russian S.S.R. | |
| UD6 | Azerbaijan | |
| UF6 | Georgia | |

| | Phone | C.W. |
|---|---|---|
| UG6 | Armenia | |
| UH8 | Turkoman | |
| UI8 | Uzbek | |
| UJ8 | Tadzhik | |
| UL7 | Kazakh | |
| UM8 | Kirghiz | |
| UO5 | Moldavia | |
| UP2 | Lithuania | |
| UQ2 | Latvia | |
| UR2 | Estonia | |
| VE, VO | Canada | |
| VK | Australia | |
| VK2 | Lord Howe Is. | |
| VK4 | Willis Is. | |
| VK9 | Christmas I. | |
| VK9, ZC3 | Cocos Is. | |
| VK9 | Nauru I. | |
| VK9 | Norfolk I. | |
| VK9 | Papua Terr. | |
| VK9 | Terr. of New Guinea | |
| VK0 | Heard I. | |
| VK0 | Macquarie I. | |
| VP1 | British Honduras | |
| VP2 | Anguilla | |
| VP2 | Antigua, Barbuda | |
| VP2 | Br. Virgin Is. | |
| VP2 | Dominica | |
| VP2 | Grenada & Deps. | |
| VP2 | Montserrat | |
| VP2 | St. Kitts, Nevis | |
| VP2 | St. Lucia | |
| VP2 | St. Vincent & Deps. | |
| VP3 (see 8R) | | |
| VP5 | Turks & Caicos Is. | |
| VP6 | Barbados | |
| VP7 | Bahama Is. | |
| VP8 | Falkland Is. | |
| VP8, LU-Z | South Georgia | |
| VP8, LU-Z | South Orkney Is. | |
| VP8, LU-Z | South Sandwich Is. | |
| VP8, LU-Z, CE9 | Sth. Shet. Is. | |
| VP9 | Bermuda Is. | |
| VQ8 | Agalega & St. Brandon | |
| VQ8 | Chagos Is. | |
| VQ8 | Mauritius | |
| VQ8 | Rodriguez I. | |
| VQ9 | Aldabra Is. | |
| VQ9D (from 10/11/65) | Desroches | |
| VQ9F (fr. 10/11/65) | Farquhar Is. | |
| VQ9 | Seychelles | |
| VR1 (includ. Canton Is.) | British Phoenix Is. | |
| VR1 | Gilbert & Ellice Is., Ocean Is. | |
| VR2 | Fiji Is. | |
| VR3 | Fanning & Christmas Is. | |
| VR4 | Solomon Is. | |
| VR5 | Tonga Is. | |
| VR6 | Pitcairn I. | |
| VS5 | Brunei | |
| VS6 | Hong Kong | |

| | Phone | C.W. |
|---|---|---|
| VS9A, P, S Aden and Socotra | | |
| VS9H Kuria Muria | | |
| VS9K Kamaran Is. | | |
| VS9M Maldive Is. | | |
| VS9O, MP4M Sultanate of Oman | | |
| VU2 India | | |
| VU Laccadive Is. | | |
| VU Andaman & Nicobar Is. | | |
| XE, XF Mexico | | |
| XF4 Revilla Gigedo | | |
| XT2 (from 5/8/60) Voltaic Rep. | | |
| XU Cambodia | | |
| XW8 Laos | | |
| XZ2 Burma | | |
| YA Afghanistan | | |
| YI Iraq | | |
| YK Syria | | |
| YN, YN0 Nicaragua | | |
| YO Roumania | | |
| YS Salvador | | |
| YU Yugoslavia | | |
| YV Venezuela | | |
| YV0 Aves I. | | |
| ZA Albania | | |
| ZB2 Gibraltar | | |
| ZC6 Palestine | | |
| ZD3 The Gambia | | |
| ZD5 (ZS7) Swaziland | | |
| ZD7 St. Helena | | |
| ZD8 Ascension Is. | | |
| ZD9 T. da Cunha and Gough Is. | | |
| ZE Southern Rhodesia | | |
| ZF (VP5) Cayman Is. | | |
| ZK1 Cook Is. | | |
| ZK1 Manihiki Is. | | |
| ZK2 Niue | | |
| ZL Chatham Is. | | |
| ZL New Zealand | | |
| ZL1 Kermadec Is. | | |
| ZL4 Auckland and Campbell Is. | | |
| ZM7 Tokelaus | | |
| ZP Paraguay | | |
| ZS1, 2, 4, 5, 6 Rep. of S. Africa | | |
| ZS2 Prince Ed. and Marion I. | | |
| ZS3 South-West Africa | | |
| ZS8 (Basutoland) Lesotho | | |
| ZS9 (Bechuanal'd) Botswana Rep. | | |
| 1M Minerva Reef | | |
| 1S Spratly Is. | | |
| 3A Monaco | | |
| 3C (see VE) | | |
| 3W8, XV5 Vietnam | | |
| 3Y (see LA) | | |
| 4S7 (VS7) Ceylon | | |
| 4U1 I.T.U. Geneva | | |
| 4W1 Yemen | | |
| 4X4, 4Z (from 14/5/48) Israel | | |
| 5A Libya | | |
| 5B4 (ZC4) Cyprus | | |
| 5H1 (VQ1) Zanzibar | | |
| 5H3 (VQ3) Tanganyika | | |
| 5N2 (ZD2) Nigeria | | |
| 5R8 (FB8 Madagascar) Malagasy | | |

| | Phone | C.W. |
|---|---|---|
| 5T5 (from 20/6/60) Mauritania | | |
| 5U7 (from 3/8/60) Niger Rep. | | |
| 5V (F.D.) Togolese Rep. | | |
| 5W1 (ZM6) Samoa | | |
| 5X5 (VQ5) Uganda | | |
| 5Z4 (VQ4) Kenya | | |
| 6O1, 6O2 (fm. 1/7/60) Somalia R. | | |
| 6W8 (from 20/6/60) Senegal Rep. | | |
| 6Y (VP5) Jamaica | | |
| 7G1 (from 1/10/58) Rp. of Guinea | | |
| 7Q7 (ZD6, Nyasaland) Malawi | | |
| 7X (FA) Algeria | | |
| 7Z (HZ) Saudi Arabia | | |
| 8F (from 1/5/63) Indonesia | | |
| 8R (VP3 Br. Guiana) Guyana | | |
| 8Z4 Saudi Arabia-Iraq N.Z. | | |
| 8Z5 (9K3) Saudi Ar.-Kuwait N.Z. | | |
| 9A (MI) San Marino | | |
| 9G1 (from 5/3/57) Ghana | | |
| 9H1 (ZB1) Malta | | |
| 9J (VQ2, N. Rhod.) Zambia | | |
| 9K2 Kuwait | | |
| 9L1 (ZD1) Sierra Leone | | |
| 9M2 (from 16/9/63) W. Malaysia | | |
| 9M6, 9M8 (from 16/9/63) East Malaysia | | |
| 9N1 Nepal | | |
| 9Q5 (pr. OQ5-0) R. of The Congo | | |
| 9U5 (from 1/7/62) Burundi | | |
| †9V1 (9M4, VS1) Singapore | | |
| 9X5 (from 1/7/62) Rwanda Rep. | | |
| 9Y4 (VP4) Trindad and Tobago | | |

† From 16/9/63 to 8/8/65 counts as West Malaysia.

## "DELETED" COUNTRIES LIST

| | | |
|---|---|---|
| C9 (prior 1/1/64) Manchuria | | |
| CN2 (prior 1/7/60) Tangier | | |
| CR8 (prior 1/1/62) Goa | | |
| ET2 (prior 14/11/62) Eritrea | | |
| FF8 French West Africa | | |
| FI8 (pr'r 20/7/55) Fr. Indo China | | |
| FN (prior 1/11/54) French India | | |
| FQ8 Fr. Equatorial Africa | | |
| I1 (prior 1/4/57) Trieste | | |
| I5 (prior 1/7/60) It. Somaliland | | |
| JZ0 (pr'r 1/5/63) W. New Guinea | | |
| PK1, 2, 3 (prior 1/5/63) Java | | |
| PK4 (prior 1/5/63) Sumatra | | |
| PK5 (prior 1/5/63) Borneo | | |
| PK6 (prior 1/5/63) Celebes and Molucca Is. | | |
| UN1 (prior 1/7/60) Kar-Fin.Rep. | | |
| VO (prior 1/4/49) Newf./Lab. | | |
| VQ6 (prior 1/7/60) Br. Somalil'd | | |
| VS4 (prior 16/9/63) Sarawak | | |
| ZC5 (pr. 16/9/63) Br. Nth. Borneo | | |
| ZD4 (pr. 5/3/57) Gold Coast, Togo. | | |
| 9M2, VS2 (prior 16/9/63) Malaya | | |
| 9S4 (prior 1/4/57) Saar | | |
| 9U5 (from 1/7/60 to 30/6/62) Ruanda-Urundi | | |

# NEW CALL SIGNS

### SEPTEMBER 1957

VK1ZAF—W. B. R. Brooks, P.O.E.C., Cottage 64, H.M.A.S. Harman, Canberra,, 2600.

VK1ZGX—P. G. M. Bruer, 8 Merrit Pl., O'Connor, 2601.

VK2BGP—G. I. Post, 32 Rutherford St., Blacktown, 2148.

VK2BHC—La Hermandad De La Costa Radio Club (Sect.), 53 Wyong Rd., Mosman, 2088.

VK2BLY—L. T. Young, 2 Iredale Ave., Cremorne, 2090.

VK2BTL—A. M. La Macchia, 26 Derby Rd., Hornsby, 2077.

VK2ZNV—M. F. Veevers, 46 Haig St., Wentworthville, 2145.

VK2ZSI—R. L. Close, 37 Bombala St., Dudley, 2290.

VK3AQE—P. J. Woodyard, Goulburn Valley H'way, South Shepparton, 3630.

VK3ZUQ—B. R. K. Smart, 19 Hyslop Pde., East Malvern, 3144.

VK3ZWG—S. R. Gregory, 30 Grandview Rd., Brighton North, 3186.

VK3ZZD—D. K. Morgan, 13 Bowden St., Wendouree, 3355.

VK3ZZH—K. J. Hollinrake, 49 Mayfield Ave., Malvern, 3144.

VK4HP—T. T. Hopgood, 47 Maxwell St., New Farm, 4005.

VK4HX—D. S. Roden, 3 Woodford St., Holland Park, 4121.

VK4IJ—J. A. Bowgen, 4 Cairns St., Rockhampton, 4700.

VK4KR—E. W. Davis, 39 Miva St., Cooroy, 4563.

VK4PM—J. G. Porter, Station: Nelly Bay, Magnetic Island, via Townsville, 4810; Postal: C/o. Nelly Bay P.O., Magnetic Island, via Townsville, 4810.

VK4RK—E. R. Harvey, 3 Paradise Pl., Surfers Paradise, 4217.

VK4ZBA—A. H. Barnes, 61 Meemar St., Chermside, 4032.

VK4ZDW—D. W. Rickard, 47 Market St., Toowong, 4066.

VK4ZGW—G. W. Shield, 14 Cameron St., Fairfield, 4103.

VK4ZKT—K. H. Tietze, 9 Normal Pde., Eagle Junction, 4011.

VK4ZLY—L. R. Yarrow, 16 Makepeace St., Rosewood, 4340.

VK4ZSM—S. J. Madsen, 30 Pope St., Tarragindi, 4121.

VK5FI—R. E. Gunnourie, Station: Portable in South Australia; Postal: C/o. Superintendent, Radio Branch, P.M.G. Dept., 31 Franklin St., Adelaide, 5000.

VK5MP—L. N. Porter, John Dallwitz Ave., Angaston, 5353.

VK5XV—G. A. Van der Harst, 31 Dudley Cres., Marino, 5049.

VK5YN—A. V. Newman, 78 McKenzie Rd., Elizabeth Downs, 5113.

VK5ZIF—I. D. Foster, 40 Addison Rd., Hove, 5048.

VK6AI—P. C. Cole, 42 McGillivray Ave., Morley Park, 6062.

VK6LJ—L. J. Smith, Lot 55, McGillivray Ave., Morley Park, 6062.

VK7MD—D. R. Marsland, 16 Nimrin St., Howrah, 7018.

VK7ZNS—N. Stutterd, 60 View Rd., Burnie, 7320.

VK8ZEB—E. S. Blackburn, 623 Dudley St., Rapid Creek, 5792.

VK9ZDW—D. McC. Weston, Station: D.C.A., Single Men's Quarters, Konedobu, Port Moresby; Postal: C/o. D.C.A., P.O. Box 80, Port Moresby.

VK9ZGW—G. W. Van Galen, Station: No. 67, 5th St., Lae, T.P.N.G.; Postal: C/o. D.C.A., Box 102, Lae, T.P.N.G.

### CANCELLATIONS

VK2XX—E. C. Howard.—Not renewed.

VK2YS—N. B. Littlejohn—Not renewed.

VK2ZG—H. Cullerton.—Deceased.

VK2ALM—L. L. McGarry.—Now VK1AM.

VK2AMG—L. M. Burston.—Transferred Interstate.

VK2AXF—A. Stewart.—Not renewed.

VK2BMF—M. N. Featherstone—Not renewed.

VK2ZBU—A. M. La Macchia.—Now VK2BTL.

VK2ZEJ—B. J. Mason.—Not renewed.

VK2ZGP—G. I. Post.—Now VK2BGP.

VK2ZJB—S. J. Brown.—Not renewed.

VK2ZRL—R. F. Lester.—Transferred Interstate.

VK2ZRS—R. de W. Satchell.—Not renewed.

VK3AON/T—A. J. Henry.—Not renewed.

VK3AZK—J. L. Thomason, Transferred Interstate.

VK4TW—C. I. Ferris.—Not renewed.

VK4VW—V. J. Wilson.—Ceased operation.

VK4ZCF—J. L. Eaton.—Ceased operation.

VK4ZEE—P. J. Fitzherbert.—Transferred Victoria.

VK4ZKJ—E. W. Davis.—Now VK4KR.

VK5AS—Philips Electrical Industries Pty. Ltd.—Ceased operation.

VK5OE—D. E. Sidler.—Not renewed.

VK5ZLP—L. N. Porter.—Now VK5MP.

VK5ZXR—G. A. Van der Harst.—Now VK5XV.

VK6MJ—A. C. MacPherson.—Left country.

VK6ZEX—B. C. Campbell.—Not renewed.

VK7ZMD—D. R. Marsland.—Now VK7MD.

— • • • —

## BACK NUMBERS OF "AMATEUR RADIO"

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1958: April, May, November, December.
1959: March, May, June, August, September, October, December.
1960: March, April, June, July, October.
1961: April, May, June, July, August, September, October, November, December.
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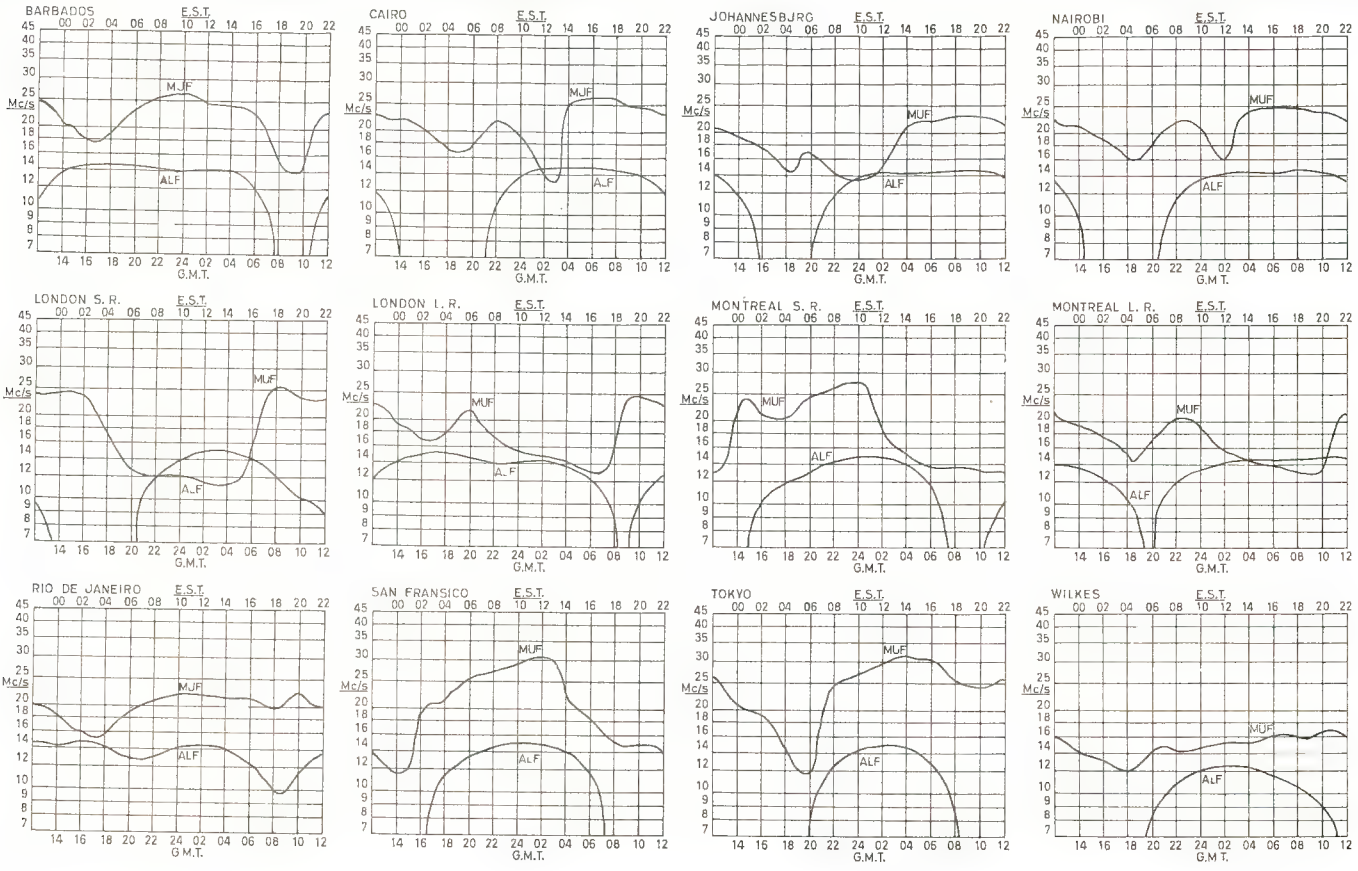
1963: June, July, August, September, October, November, December.
1964: All months except July.
1965: All months.
1966: All months except October and December.
1967: February, March, April, May, June, October, November, December.

# PREDICTION CHARTS FOR JANUARY 1968

(Prediction Charts by courtesy of Ionospheric Prediction Service)



# Rules for the Australian S.W.L. Century Club Award

**OBJECTS**

1.1 This award was created in order to stimulate interest in logging DX in Australia, and to give successful applicants some tangible recognition of their achievements.

1.2 This award, to be known as the "S.W.L. Century Club Award," will be issued to any resident Australian Short Wave Listener who satisfies the conditions following:

1.3 A certificate of the award will be issued to any applicants who produce proof of having logged one hundred countries, and will be endorsed, as necessary, for loggings made in respect of one type of emission.

**REQUIREMENTS**

2.1 Vertifications are required from one hundred different countries as shown in the official "Australian DXCC Countries List".

2.2 The official countries list will be published annually in "Amateur Radio" and will be amended from time to time as required. Should a country be deleted from the list at any time, members and intending members will be credited with such country if the date of logging was before such deletion.

2.3 The commencing date for the award is 1st January, 1946. All loggings made on or after that date may be included.

**OPERATION**

3.1 Loggings must be made in the h.f. band (Band 7), which extends from 3 to 30 Mc., but each logging must only be made of stations operating in the authorised Amateur Bands in Band 7.

3.2 Loggings may be made of any authorised type of emission for the band concerned.

3.3 Credit may only be claimed for the logging of stations using regularly-assigned government call signs for the country concerned.

3.4 Loggings of ship or aircraft stations will not be allowed, but land-mobile stations may be claimed, provided their specific location at the time of logging is clearly shown on the verification.

3.5 All stations must be logged from the same call area by the applicant.

**VERIFICATIONS**

4.1 It will be necessary for the applicant to produce verifications in the form of QSL cards, or other written evidence showing that specific loggings have been made.

4.2 Each verification submitted must be exactly as received from the station whose signals were logged and altered or forged verifications will lead to the rejection of that card, and may lead to the disqualification of the applicant.

4.3 Each verification submitted must show the call sign, the date, and the time of contact, type of emission and frequency band used, and the location or address of the station at the time of logging.

4.4 A check list must accompany every application setting out the following details:

4.4.1 Applicant's name and listener number, if any, and whether a member of the W.I.A. or not;

4.4.2 Details of any special endorsement involved;

4.4.3 Details of each contact as required by Rule 4.3;

4.4.4 The applicant's location at the time of each logging if portable/mobile operation is involved;

4.4.5 Any relevant details of any contact about which some doubt may exist.

**APPLICATIONS**

5.1 Applications for membership shall be addressed to the "S.W.L. Awards" Manager, G.P.O. Box 2611W, Melbourne, Victoria, 3001, accompanied by the verifications, check list and sufficient postage for the return of the verifications, registration being included if desired.

5.2 A nominal charge of 25c, which shall also be forwarded with the application, will be made for the issue of the certificate to successful applicants who are non-members of the Wireless Institute of Australia at the time of application.

5.3 Successful applicants will be listed periodically in "Amateur Radio".

5.4 In all cases of dispute, the decision of the S.W.L. Awards Manager and two officers of the Federal Executive of the W.I.A. in the interpretation and application of these rules shall be final and binding.

5.5 Notwithstanding anything to the contrary in these rules, the Federal Council of the W.I.A. reserves the right to amend these when necessary.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**ALSO AMATEUR TYPE CRYSTALS — 3.5 Mc. AND 7 Mc. BAND.**

**Commercial—0.02% $7.25, 0.01% $7.55, plus Sales Tax.**
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With the co-operation of our overseas associates our crystal manufacturing methods are the latest.


# 2 METRE S.S.B. TRANSMITTER

(Continued from Page 3)

registering on the g.d.o., I tracked back through and found it.

All the sockets were the ceramic type with shields; shielding was finally incorporated in the final 3/12 when it was decided to run it as a 10 watt mobile.

Zener diodes replaced the cathode resistors, clamping the bias at —20 volts, which, along with the 150v. screen regulation, gave quite a copyable signal on 144 Mc.

A test over 10 miles from beam to vertical dipole gave quite good results. The speech quality was fairly harsh but this was cured by a few capacitors in the audio pre-amplifier.

VK3ZBJ taped several overs and played them back. The overall results were very satisfactory and the hours spent building the rig were justified.

This rig draws approximately 200 mA. and mobile operating comes easy due to the crystal control.

If a v.f.o. is to be used, it would be a simple matter to build up a stable v.f.o. with an output at 112 Mc. This can be fed to the grid of the quadrupler or another way would be to use the 6EJ7 as a frequency multiplier to 111 Mc. from a lower frequency v.f.o.

## W.I.A. D.X.C.C. (S.W.L.)

Listed below are details relating to those Australian Short Wave Listeners to whom this certificate has been awarded:—

| Cert. No. | Call | Name | Date Awarded |
|---|---|---|---|
| 1. | L3042 | Eric Trebilcock | 1/11/65 |
| 2. | L2022 | Don Grantley | 29/12/65 |
| 3. | L3211 | Warwick Smith | 31/5/66 |
| 4. | L4018 | Chas. Thorpe | 11/7/66 |
| 5. | L5080 | Ernie Luff | 25/1/67 |
| 6. | L3229 | Bob Halligan | 18/11/67 |

# TECHNICAL ARTICLES

Readers are requested to submit articles for publication in "A.R.," in particular constructional articles, photographs of stations and gear, together with articles suitable for beginners, are required.

Manuscripts should preferably be typewritten but if handwritten please double space the writing. Drawings will be done by "A.R." staff.

Photographs will be returned if the sender's name and address is shown on the back of each photograph submitted.

Please address all articles to the

EDITOR "A.R.,"
P.O. BOX 36,
EAST MELBOURNE, C.2,
VICTORIA.

# SWL

Sub-Editor: D. GRANTLEY, WIA-L2022
P.O. Box 222, Penrith, N.S.W., 2750

Much is being written at the present time and research is being undertaken in order to preserve data on the early days of radio. Many of our older listeners could add much of interest to these writings, so I have asked a man who has been associated with listening since the early days to pass on to us his impressions of the days gone by, and without further ado, I pass these notes over to the pen of Harry Major, who will continue with this series over a few months.

**IN THE BEGINNING**

"I was fortunate to be old enough in the early 20s to take an active interest in wireless, as it was then known. From the pre-war stage, radio had developed tremendously, and it came as a great thrill when we were able to listen to music and speech in place of Morse and time signals from VIM in the Domain, Melbourne. The amateurs, or experimenters as they were called, were becoming more active and testing of equipment and transmission was carried out by broadcasting musical recordings. Owing to attending evening classes, my activities were somewhat curtailed, and it was not until 1923 that I was able to make anything more than a crystal set. Audio parts were scarce, circuits and reliable information were even scarcer, and most of our equipment had to be home made. Fortunately, through my work, I was able to construct many pieces quite easily, assisted by a fellow enthusiast from the P.M.G. Department. One of our local Amateurs, who had opened a radio business, became friend and mentor of many would-be listeners. He used to broadcast regular evening sessions, and this helped to create greater interest. VK3WA was the first station I ever listened to.

"I did not keep records of those early days, and so some of my facts may not be correctly placed, and others omitted. The foregoing was the basis of an article of mine which appeared in the 'Listener In' of Jan. 18, 1936, since then I have collected anything historical which has appeared in radio magazines, together with a large collection of information and short wave radio circuits, copies of which are available to S.w.l's on request (and a stamped envelope).

"English wireless magazines were by now publishing details of radio sets, and parts were available. Earphones were plentiful in Australia, but almost everything else, including tuning condensers, fixed condensers, grid-leaks and of course coils, had to be made by hand, and it was some time before loudspeakers came on the market. In 1923, a crystal set took up as much space as a large valve set did a few years later. Bright emitter valves were in use, and later a new series of dull emitter valves became available. These had a lower filament consumption and became very popular, their advantages were quickly recognised and their faults soon learned.

Before the days of metal chassis and cabinets, hand capacitance was a problem, parts had to be widely spaced, the wiring in bright tinned bus-bar, uninsulated, had to be carefully set out to avoid inductance. Quite a number of listeners learned, to their sorrow, the usual effect of dropping something metallic into the wiring whilst the set was in operation. Tuning was usually carried out by means of long ebonite handles and then under difficulties. Fine tuning was impossible, reaction controls and too close coupling coils caused considerable interference, or 'joeys' as they became known.

"Aerials were long, high and often elaborate; two, three or more wires spaced a few feet apart, and as transmitting stations used comparatively low power, every effort had to be made to catch the often elusive signals."

**TOP BAND IN VK**

Following the remarks from George Allen on top-band activity in the U.K., I have asked well known 1.8 Mc. enthusiast, John VK5KO, to give us a run-down on what to expect here in Australia. Firstly here in VK, conditions are vastly different from those in England or on the continent. where a few watts and a piece of anything for an antenna will get you a host of contacts. Not so out here, for much of the gear used by the G boys just would not be adequate out here in the vastness of VK.

John stresses the point that the moist soil of G-land is a big factor over there. Thus, for the attempt to operate on top band out here, we must look to our antenna as a basic requirement. On this matter, I quote John, "Obviously, the best antenna on any band is a matter of opinion, but basically the minimum technical requirement for a base level result is that it be at least a half wavelength long, and half wavelength above earth. At 1.8 Mc. this would involve an antenna 260 ft. long and 250 ft. high. A 520 ft. top would be better for all round reception. If this is not possible, then a vertical antenna of 130 ft. (quarter wave) with at least eight radials of 130 ft. buried, and fanning out at 45 degree angles. These structures are actually minimal, for reasonable reception."

It would appear that in this area, 1.8 Mc. is not a S.w.l's band, as will be seen from the following summary of John's letter. Firstly, it needs complete darkness along the entire path of the contact, this is more evident on this band than on 40 or 80. Sigs. are weaker, and QRN levels under good conditions are very high. Obviously the QRN and the signals come by the same media, so if conditions (say to central U.S.A.) are excellent, you will also have a contribution from every thunder and electrical storm on route.

John has just finished a half yearly report for W.I.B.B. This covers, in fact, a period of 14 months, in which time VK5KO had only 30 DX contacts on a few isolated openings. Four on one night, three on one other, two on two other occasions, and the remainder being single contacts with long gaps in between. A four-month 40-night sked with two W stations, January to May 1967, resulted in only one QSO (in mid March), and that 339 each way—it is doubtful if anybody who had not been solidly experienced in weak DX would have heard them.

Summary, unless the listener is an experienced DX man, able to read exceptionally weak c.w. signals, and has at least the minimum antenna for this band, then top band is out for him. However it is a challenge for chaps who are capable of reading through QRN and can copy c.w., speeds are of necessity very slow, and contacts are positive. There are only a handful of experienced c.w. operators amongst the S.w.l's of Australia, probably in the world, and it would be a rare thing for a listener to have a DX card from a 1.8 Mc. contact from this country.

**PERSONAL NOTES**

Eric L3042 has had QSLs from 100 countries this year (to end October), an objective he tries for each year. In November, he reported hearing some excellent DX on 7 and 14 Mc. c.w., including VQ9JW (Aldabra) for his 301st country heard (all time). ET3FMA (K4FMA), VS6DO, GW3NDB, ZC4RB, 9V1LK, EP2BQ, VQ9JW, 5Z4SS and ZS6OS were the plums on 7 Mc., whilst on 14 Mc. he heard these: VS-9AWA, HI8LAL, FK8BL, PY1FK, HK3BAE, 9M8II, 7X0WW, PY7TY, HK7UL, ZD5X, ZE-3JO, VQ8CC, CR7BN, 5R8AM, ZS2CV, 5Z4SS, MP4BEU, CR7IZ, 4S7EC, PY2SO, ET3USA, ZE2KV, 9J2GT and XW8BP.

Ern Luff has received his second Canadian award, this time the Calgary Stampede award. Little doubt he would be the first VK S.w.l. to receive it, maybe first S.w.l. in the world.

**DX NEWS**

I have nothing of interest this month, however, as promised, here are some more DX stations who QSL via the courtesy of W2CTN: PY7BAC/PY0, PZ1AP, SL1CF, TA3BC, TG-9AL, TI2CMF, TI2WD, TZ1A, VE1ASJ/VE1, VK2AYY/VK2, CK2FR/VK2, VK9s AG, JK, MJ, NT, RR, SB and TG; VP1TA, VP2s AV, KH, KT and LD; VP3RW, VP4TR, VP5BP, VP5IG. VP6BA, LJ and PV; VP7BP, CS and NY; VP8AI and HJ; VR2DA, VR2DK, VS9MB, MP and PHH; VU2GW, VU2JA, W0GTA/8F4, XW8AI/FG7, YA1YL, YS1CN, IM, MM, RSE and SB; ZC4CZ and SG; ZD3F, ZD3H, ZS5M, ZD8BC, HB, HL and RH; ZD9AM and HL; ZE1AY and BK; ZK1PK, ZS3EW, ZS7M, ZS8G, 3A2BZ, 3A0DK, 4W1C, D and F; 5A2CW, 5A3-CAD, 5B4AA, CZ, RA and TC; 5H3HV, 5J3LR, 5N2DCP, ACB and KHK; 5X5IG, 5Z4IV, 7X2CT, 7Z1AA, 9G1BQ, CW and DV; 9J2IE, 9L1BC, 9M2YY, 9M4LP, 9M6BM, 9Q5IG, 9Q5XG, 9V1LP and 9Y4TR. This is the complete list, which was correct at end of October, 1967.

Again, we remind you that John W2CTN does a wonderful job handling all these QSLs and is naturally out of pocket in doing so. It is to the benefit of all S.w.l's that your reports to him be 100 per cent. accurate, contain at **least** the minimum data of date, time in GMT, band, mode of operation, station being worked (stations called and not worked or CQ calls are rarely if ever, entered in the log, so don't waste your time and John's by reporting these transmissions), RST of both stations if possible, these are the minimum requirements for a S.w.l. report. Better still, if you can include details of several successive contacts, band conditions, weather conditions, and anything else of interest.

I doubt if he (or any other manager or DX station for that matter) will be interested in the DX scores and particulars of awards which S.w.l's have obtained, a courteous request for a card "for award purposes" will do more for any individual, and S.w.l's in general, than the often forwarded "Skite Sheet".

The S.w.l. movement is at the present time facing the hardest period I believe, irresponsible and unethical operators have brought the hobby into ridicule. It is the duty of every S.w.l. to do everything in his power to raise the standard of his activities so that the appreciation of our efforts will be increased, and to do this, it will be necessary for every group and office-bearer to look hard at his own "doings" to ensure that never again will any Amateur be able to refer to us as the Division's "problem children," and be recognised for what we are, not a parasitical branch of the hobby, but co-members (paid up to the end of the financial year), interested in hearing, learning, uniting with, and doing anything we can to assist in the operation of Amateur Radio in general.

There is no room in the S.w.l. movement, or in any organisation for that matter, for the smartie, the person who wants to push his own interests to the detriment of the group, and the W.I.A. in general. Don't forget that the Amateur is a far more experienced man and certainly in most cases, knows far more about radio and operating, and the hobby in general, thus is entitled to your respect. Don't insult him by demanding a S.w.l. QSL card, particularly with a half completed or inaccurate report, but approach him in a courteous manner, treat him with respect. After all, we are in no position to demand, and when writing to either a local or overseas DX man, extend to him the courtesy of either a stamped envelope or an I.R.C. in the case of the overseas operator. I cannot stress this last matter too highly. DX operators are plagued by dozens of requests for cards, and even by using the bureau, considerable expense can be incurred in return for some information of very doubtful value, for all DX men, regardless of location, know the ability of their gear, and where and when they can work into a given locality.

In other words, chaps, we must in many cases raise the standard of our activities and our approach, or we've had it.

All for this year, thanks to all who have assisted in 1967, and all the best for 1968. —L2022.

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# Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the Publishers.

**LEARNING THE CODE**

Editor "A.R.," Dear Sir,

There has recently been a noticeable increase in the number of Amateurs who are converting their Limited licence to the Full licence. This is very gratifying, for the full licence offers much more scope, whether the interests lie in building or operating. However, the study of Morse is one that demands persistance and practice; and of late, some students have been learning the code with a system that has a very serious disadvantage. In this system, the characters are sent fairly fast (about 18 to 20 w.p.m.), and the overall speed is reduced by increasing the spacing between each letter. Whilst this system has the advantage of helping the student to recognise fairly fast code, and giving him time to think, it does have a very serious disadvantage. When the student first hears Morse that is sent with normal spacing, he is unable to copy it, for it appears to him to have no spacing.

The relationship between dots, dashes and spaces is a constant, regardless of the actual words per minute, and this is easily demonstrated with a Wheatstone perforated tape. Perfect Morse can readily be found in the 6.3 to 6.5 Mc. band, and also in the 8.4 to 8.7 Mc. band; these frequencies carry most of the shipping traffic and much of it is tape sent. If recorded on a dual speed recorder and replayed at half speed it will provide excellent practice.

The "super-spaced" Morse is not real Morse; it is seldom heard on the Amateur bands and never heard on the Commercial bands. What is perhaps more important, it is not likely to be heard in the examination room, for the P.M.G. examiners are ex-Commercial operators.

—John H. Smith, VK3IQ.

# THE NEW HANDBOOK

Further to the notes that appeared in the October and November issues of "A.R.," some additional points of interest from the new Handbook follow—

**AGE LIMIT**

Licences for stations in the Amateur Service can now be obtained at the age of 15. The intending Amateur may, however, sit for the examination from the age of 14. If successful, he will receive his certificate of proficiency, but must wait until he is 15 before an amateur operator's licence will be issued. Extracts from the Handbook state—

> "**Paragraph 3**—Licences for radio stations in the amateur service may be granted subject to such conditions as are prescribed—1. The person who has attained the age of 15 years . . ."
>
> "**Paragraph 9**—An application for examination will not be accepted from a person who has not attained the age of 14 years."

**EXAMINATIONS**

Several changes have been made in the Handbook in respect to examinations—

(a) The frequency of the written part of the examination for A.O.C.P. or A.O.L.C.P. has been reduced and are now held twice yearly. The Morse test will, however, continue to be held four times a year.

> **Paragraph 6** states—"Examinations for amateur operator's certificates and amateur operator's limited certificates are conducted in selected centres in capital cities and at cities and towns at which a District Radio Inspector is stationed, on the third Tuesday of February and August. Examinations in telegraphy only are also held at these centres on the third Tuesday of May and November."

(b) **Partial Failures in Examinations.**—Whilst basically there has been no change in the previous situation where a year's exemption was allowed before re-examination, the change in frequency of examination has necessitated the re-phrasing of the relevant Handbook paragraph which now states—

> "**Paragraph 20**—Exemption from re-examination in each subject in which a candidate was successful, and granted, in the case of theory and regulations for the ensuing two full examinations (February and August), and for telegraphy for the ensuing four examinations (February, May, August, and November)."

(c) **Marking of C.W. Examinations.**—The new Handbook clarifies the situation with regard to the marking of c.w. examinations. In the old Handbook it was simply stated that a pass mark of 70% was required and in many cases the intending amateur had prepared himself for 70% "correctness of text", i.e. if he could copy 70 words out of the 100 he felt qualified to sit for the telegraphy examination. In fact the standard required was, and is, much higher and in the same terms was, and is, about 97% "correctness of text". As a result, the candidate often failed when he felt certain he had passed.

> **Paragraph 19** states—"In the telegraphy receiving test the candidate is required to receive 70 words (averaging 5 letters per word) in mixed plain language and figures (each figure counting as 2 letters) in 5 minutes. Each figure or letter incorrectly received counts as one error (a loss of 3 marks) with a maximum of 3 errors (a loss of 9 marks) in any one word or group. Additionally, one mark may be deducted for each doubtful character. More than 10 errors (30 marks) or its equivalent will result in failure."

In the telegraphy sending test the candidate is required to send the equivalent of 34 words (averaging 5 letters per word) in mixed and plain language and figures (a figure counting as 2 letters) in 2½ minutes. Each uncorrected letter or figure error involves a loss of 3 marks with a maximum of 3 such errors (a loss of 9 marks) in any one word or group. Additionally, one mark may be deducted for each corrected error, bad formation (each character) and spacing. More than 5 uncorrected errors or its equivalent or failure to complete the sending test in the allotted time will result in failure.

(d) **Suggested Text Books**—For the theory part of the examination the list of recommended text books has been brought up to date and **paragraph 16** lists the following:—

> Radio Amateur Handbook (A.R.R.L.).
> Radio Handbook (Editors and Engineers).
> The Amateur Radio Handbook (R.S.G.B.).

The examination and regulations, **paragraph 17**, makes it quite clear that the candidate will be examined on chapters 1 to 8 of the new Handbook. He will not be expected to be able to quote the Wireless Telegraphy Regulations appended to the "new" Handbook.

**T.V.I.**

In all of the discussions with the Department this subject was the one least able to be precisely defined. The following statement of the situation appears in paragraph 69. Neither the Institute nor the Department are completely satisfied with the statement but could find no better way of expressing their intention.

> "**Paragraph 69**—Where the reception of broadcasting or television programmes is being affected by the operation of an amateur station, the licensee shall, except for brief tests necessary to determine corrective measures, refrain from further transmission on the frequency or frequencies that cause the interference during the operating hours of the broadcasting or television stations affected. If such corrective action is successful in eliminating the interference the station may resume normal operation. However, if the combined efforts of the complainant and the licensee fail to clear the interference or the former refuses to co-operate with the licensee in the matter the Superintendent, Radio Branch, or District Radio Inspector should be notified accordingly. Each such case shall be investigated on its merits and the licensee shall be advised if and when he may resume transmissions or of the conditions under which his station may be operated."

The amateur cannot expect the right to transmit to the detriment of many television viewers or broadcast listeners. In the last resort he must accept that whether or not he is permitted to transmit whilst causing interference is a value judgment as to what is reasonable in all the circumstances of a particular case. Television or broadcast interference is not a problem that can be solved by the application of an arbitrary rule (except perhaps to the detriment of the amateur).

The fact is that the Department must have the discretion to judge what is reasonable. The fact of the matter, also, is that in every case where the problem has arisen in recent times, to the knowledge of the Institute, the Executive have found no cause to complain with the attitude adopted by the Department towards the amateur.

T.v.i. is not a problem that can be solved by regulations. In most cases it is a problem of human relations; in most cases t.v.i. can be cured before it is a problem. Much depends on the individual amateur himself.

**LOG BOOK**

IS NOW AVAILABLE

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# DX

Sub-Editor: ALAN SHAWSMITH, VK4SS
35 Whynot St., West End, Brisbane, Qld., 4101

Conditions are still holding up on all bands and quite a variety of prefixes can be worked, particularly on 14 and 21 Mc. 1968 promises to be a good year. Many DX-peditions are in the planning, including some brand new ones. So keep an ear to the receiver.

**NOTES AND NEWS**

Aldabra: As reported previously, John VQ-9JW will be active from here till March next. He is keen to work VKs on all bands. If you want a QSO on 160 or 80 it is necessary to make a sked first. He will come up on 3695 at 1830 or 7003 1930. Other frequencies are 23690, 21350, 14203, 14080, 21080, 7070. He usually commences daily around 1600 and continues through. QSL G3ONU.

Galapagos: HC8FN 14103 0030. QSL WA2WUV.

Sudan: Both ST2SA and ST2PO are active and worked here 14020 1930. The former is on fixed frequency. He has been sent xtals to put him on 28040 so keep an ear out. QSLs for ST2SA go to Sid Ahmed Ibrahim, P.O.B. 244, Pt. Sudan. Professionally he is an opthamologist. Requests radio magazines and some I.R.C. please with your QSL. ST2PO says send his via the bureau.

Seychelles: Harv the Brain now using the call VQ9V on 28690 1730.

Sao Thome: CR5CA 21060 2260. Also CR5SP on 14 and 21 s.s.b. Heard worked VKs 2100z.

Vietnam: K8NHW/XV5 is conferring with F.C.C. in an attempt to legalise his status. At present he is not permitted to QSO Ws. (VK-4UC)

Nauru: Don Miller says there will be operation from here early in 1968. This will not be W4CHA who was in VK last year. VR1 and VR2 is the planned DX-pedition for the latter commencing around Feb. Bob will be QRV all bands. More information when it comes to hand.

South Orkney: VP8JD 14 s.s.b. 0200. QSL VE3ACD.

Rochas Atoll: PY0AQB is currently QRV from here. It might be given D.X.C.C. status. QSL PY7AQB.

Yemen: 4W1KV 14086 1900. QSL HB9KV.

West Spitzbergen: JW8YB 14103 1145. Mode c.w. **not** s.s.b.

Wilkes Base: VK0GP 14165 1015.

Saudi Arabia: 7Z3AB 14060 2100.

South Georgia: VP8IE 14187 2200. QSL DOTM.

Grenada: VP2GBC 21329 2130. VP2GLE, who these past months has been very QRV on 14 c.w., is off to the States for an indefinite time.

Spanish Morocco: EA9EO 14060 and higher, 1900. Has S9 sig here but not too steady.

Corsica: FC2CD 14198 1930. Also F2TT/FC is active on 21040 approx. around 1100z.

South Shetland: VP8IY 14004 and 15 mx around 0000z. QSL R.S.G.B.

Lesotho: 7P1AR 14105 0400. Also 21 Mc. sometimes.

Chagos: VQ8CD has been heard here on a.m. 14110 1600.

South Sandwich Is.: LU2ZI is said to be active from here. No other information.

U.S.S.R., Zone 23: UA0KYA 14012 1430.

Bear Is.: JW2BH 21065 1900. Also JW5UL said to be on sometimes. QTH JW2BH, Blornoya Tromsoe, Norwat. First mail out is next May. Radio magazines would be appreciated.

Indonesia: PK8YBC 14170 1240. QTH 31 Ksalam St., Bandoeng. (VK4MY) PY8YAK also on the air at 2000z. QTH Haruman. Usually around 14195.

Iceland: TF2WKM and TF2WKS both active around 0500 on 14 s.s.b. Mainly worked Europe. Also one or two others active on c.w. at 1900z.

Cameroons: TJ1QQ can be easily worked around 14008. 0600 and 1930z.

Liberia: EL3C is said to be working 80 and 160 and looking for VK QSOs. He is ex-SM5ACC, Ake Schenning, C/o. Roberts Int. Airport, Liberia. A note will arrange a sked Also QRV from Nimbo is EL8O on 14 s.s.b. and higher. QSL SM3BNV.

French Somali: FL8FP 28600 2030. QSL B. A. 188, Djibouti, T.F.A.I.

Azores: CT2AP 21 a.m. 1315 and 2400.

Madeira: CT3AS is a regular on 14 through 28 c.w. on the low end around 020. Also will come up on 7 Mc. Worked here on this latter band at 1900. Best time on ten is 0900.

Vatican: HV3SJ is said to be active s.s.b. all bands. The HV3SJ on 14 c.w. is reported as a pirate. (This remains to be seen.—Al.)

French Guyana: FY7YM 14190 0430.

Jan Mayen: JX2XF now on c.w. 14 Mc. 1400 and 2100.

Marion Is.: ZS2MI still going strong on a.m. 14150 1700. QSL ZS4OI.

Botswana: Ed ZS9Q 14047 1515. P.O. Box 45, Francistown.

Wrangle Is.: UA0KIP 14029 1800.

Niger: 5U7AL 14165 2300. QSL W4WHF.

Somali Rep.: 6O1GB 21330 1900, and 14195 sometimes. QSL W1YRC.

St. Helena: ZD7FF 14218 0000. QSL W8UAS.

Tunesia: 3V8BZ 14195. QSL DL7FT.

Gabon: TR8AI 14050 1600. QSL P.O. Box 177, Libreville.

Togo: 5V1ZR and one or two others active. Try 14150 1500.

Senegal: 6W8DQ 14200 0000. Also 6W8DD sometimes on A1 around 0700z.

Rwanda: 9X5GG 21326 1930; QSL DOTM. 9X5PS is also very active 14 c.w. about 1900.

Easter Is.: CE0AE has been on from here earlier this year. VK2PF reports his correct QSLing address as C/o. Ham Shack, P.O. Box 37, A.P.O., New York, 09339. CE0PG 14205 0125.

Afghanistan: YA1FV 14195 0800z. Also 28710 1000. He is expected to be QRV from XV5 soon.

Argentine Is.: VP8IU 14140 2000 and later. Said to be on daily. QSL G3MBQ.

Bouvet Is.: Unofficial rumour has it that activity using call 3Y0AB will occur late Dec. and early Jan. However times are not finalised.

Timor: CR8AH 21225 1200z. J. B. Santos Leits, P.O. Box 225, Dilli, Timor.

**ACTIVITIES**

Merv VK4DV reports 20 as good and notched up these: TG9EP, LX1RB, OE9ZBJ, OX3BX, KZ5QA, VK4HG (Willis), VP6RG, ZS5XA, EP3AN, 7Q7LZ, OZ4RT, G5AAM, LZ1BZ, YJ-8BW, CE6CA, CR6BK, LU4DMG, W3DWG/VR6, 9G1KG, CE1FC, AP2MR, U5ARTEX, LA5YJ, UW3VT, UR2KAW, SV0WL, SP5AKG, UI8AG, 9M2DR, OF2LA. Mostly between 0700 and 1230. Merv also reports that both 15 and 28 are showing promise.

Dud VK4MY has run up a nice list this month. Some of the best were YJ8BW, 3C7-AXQ, UA0EH, VR1L, OF2AM, CX9CO, 5N2ABF, VS6DO, VS6AJ, VU2CK, VK8UG, UV9PP, OA8V, KX6FN, CE6CA, UR2AR, XW8BX, 9V1OB, HL9TM, ZS6DH, YU2HA, CP5AB, TJ-1QQ, UA1KAE (Antarctica), UN1BR, UT5PK, VP2GLE, EA8FE, UG6EA, KS6CG, UW3WA, PK8YBC, 9Q5EP, HV3SJ, YO3LM, VU4UK. Mainly on s.s.b. and between 0630 and 1200.

Chas VK4UC, like all school teachers, very QRL at this time of the year, nevertheless managed these: FR7ZD, VU2NA, ZD5X, BV2A, UR2EJ, DM2BJD, UF6AM, HS4AK, ZF1ES, ZF6DX, YS1SRD, ZE3JU, OA4O, HV3SJ, VP-1LL, SV0WB. All 14 c.w./s.s.b. and around 1200 mainly.

Peter VK4PJ still picking up an odd country or two, logged the following: 20 s.s.b. mainly between 14150 and 14195: CR4AY, FK-8AU, 5Z4KL, UT5LE, ZC4CN, 3V8BZ, CR5SP, 4Z4AO, ZC4MO, VR1L, 7X0AH, VU2VZ, YV4QG, VS9ARS, 7X2XS, 5V1KG, FO8BV, K8NHW/XV5, PJ3CB, JT1KAA, YJ8BW, HC5BZ, 9J2WR, 9M2NF, 9Y4AR, UJ8AC, ZS1JA, YV1OT, HI-8LAL, CN8BV. 15 mx: KP4BCL, KP4CSU, UA-3ZO, XW8BX, UW3IN, ON5JY. Ten metres: I1MKN, VU2JM, EA7GF.

**SOME QTHs**

VP1LL—VE3ACD.
HS4AR—P.O. Box 2008, Bangkok.
ZF1ES—R.S.G.B.
ZF1DX—K6KDS.
SV0WB—C/o. Am. Con.-Ge., Salonika, A.P.O., N.Y., 09693.
TF2WKS—WB2DXL.
TF2WKM—SM7DQC.
EP2MM—W0YLN.
HZ3TYQ—Box 1721, Aramco City, Dhahran.
VP6PJ—WB2UKP.
7X0AP—P.O. Box 414, Algers.
TA1AB—P.O. Box 699, Karakoy, Istanbul.
VQ8BG—5A3TT.
**Wanted**: QTH of 6W8DD please.

**AWARDS**

**Worked Scandinavian Prefixes—WSPX:** The Polar Bears' Radio Club issues this award to any Amateur for contact with Scandinavian Amateurs using different prefixes.

There are three classes—40, 30 or 20 prefixes. Five I.R.C. must be enclosed with the application. QSL cards are not required. Only a signed list checked by two other Amateurs. Apply to P.B.R.C., C/o. Sven Elfving, Solgardsgatan 15, Ornskoldsvik, Sweden. Scandinavian prefixes are all SM, OH, LA, OZ, OY.

**SUMMARY**

Want to further yourself in Amateur Radio in '68? Then belong to one or more of the many "IN" groups. Maybe the following organisations will interest you?

A.H.C.—Award Hunters' Club: If you collect awards you may be eligible. 25 certificates from four continents is the basic requirement. A.H.C. has in its ranks many worthwhile Hams, engaged in promoting Amateur Radio. To belong to A.H.C. is to be in the right company. For particulars, apply VK4SS, Oceania Secretary. Enclose an I.R.C. or stamp please.

I.A.R.J.S.—International A.R. Journalistic Society: If you aspire through journalism, editing, writing, photography or P.R. of any kind, I.A.R.J.S. is the group for you. Its members rank among the top in ARdom. If you want to bring yourself right into the latest in thought and progress in A.R., this is the Society for you. Formed after the pattern of Sigma Delta Chi. Full particulars from Secretary, Mary Alice Koctur, K0BWJ, 3116 Backmeyer Rd., Richmond, Indiana, U.S.A.

Int. SSBers: Want to join a band of Hams that puts personalities before prefixes? Where friendship is the thing. "The Voice," s.s.b'ers magazine will bring you pictures and cameos galore. For a new dimension in A.R. begin by listening on the s.s.b'ers system 14332 1800z. Your next impulse will be to write to Editor K4ICA, V. Mayree Tallman, 428 S.W. 28th Rd., Miami, Florida, 33129, U.S.A., for more info.

Please remember chaps, that DX news is always needed here, particularly items concerning Oceania. Deadline is at end of month or just prior to same. 73 and DX, Al VK4SS.

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## A.R.R.L. INTERNATIONAL DX COMPETITION

**PRECIS OF RULES**

Amateurs throughout the world are invited to participate in the 34th A.R.R.L. International DX Competition. Special certificates of performance will be issued to the top phone and c.w. scorer in each country. In addition, a handsome plaque will be awarded to the continental high scorers (non W/VE), single operator, phone and c.w.

**Dates:** Phone, Feb. 3-4, Mar. 2-3, 1968. C.w., Feb. 17-18, Mar. 16-17, 1968.

**Times:** 0001 G.M.T. Saturday to 2400 G.M.T. Sunday.

**Object:** DX stations QSO as many of the 48 conterminous U.S. states and Canadian call areas as possible. Repeat contacts on additional bands are permitted.

**Points:** Each complete contact counts three points, incomplete contacts count two points.

**Exchange:** Send RS(T) and input power. The W/VE will transmit RS(T) and his state/province.

**Multipliers:** On each band, your multipliers are the 48 conterminous U.S. states, plus VO and VE1 through VE8, a total of 57. Your final multiplier is the sum of multipliers worked on each band. QSO points times the final multiplier equals the final claimed score.

**Logs** must contain dates, times in G.M.T., bands, exchanges and points. (Signed legible copies of your log are acceptable.) Logs, with summary sheet (see below) and multiplier check list must be sent to A.R.R.L. no later than April 21, 1968. Send to: A.R.R.L. DX Test, 225 Main St., Newington, Connecticut, U.S.A., 06111.

SUMMARY SHEET

Call ..... C.W./Phone..... Country..... ...
Single Operator..... Multioperators..... ... ..
Name..... ..... Number and Street..... .....
City and Country ... ... .. D.C. input... ...watts
Transmitting Equipment ..... ... ..... .....
Receiver(s) .... ... . . ... Antennae. .... ... ..... ..

| | 1.8 | 3.5 | 7 | 14 | 21 | 28 | Totals |
|---|---|---|---|---|---|---|---|
| Multiplier | | | | | | | |
| Contacts | | | | | | | |

..... (pts.) x .....(mult.) equal ..... (claim. score)

I certify, on my honour, that I have observed all competition rules as well as all regulations established for Amateur Radio in my country, and that my report is correct and true to the best of my belief. I agree to be bound by the decisions of the A.R.R.L. Awards Committee.

... . ..... . .. ...(Signature and call)

— • • • —

## CONTEST CALENDAR

Until 14th January: Ross R. Hull Memorial Trophy V.h.f. Contest.
3rd/4th Feb.: John Moyle Memorial National Field Day Contest.
3rd/4th Feb.: 34th A.R.R.L. International DX Competition (phone), 1st week-end.
17th/18th Feb.: 34th A.R.R.L. International DX Competition (c.w.), 1st week-end.
2nd/3rd March: 34th A.R.R.L. International DX Competition (phone), 2nd week-end.
16th/17th March: 34th A.R.R.L. International DX Competition (c.w.), 2nd week-end.

# VHF

Sub-Editor: CYRIL MAUDE, VK3ZCK
2 Clarendon St., Avondale Heights, Vic., 3034

Not much Interstate news has been received this month, possibly caused by the fire in the Mail Exchange back in November. The reports received show that 6 metres is becoming rather interesting as far as the DX is concerned with openings to JA beginning to be as common place as working across town. By the time you read this, the Ross Hull Memorial V.h.f. Contest will be in full swing and if band conditions are to form, some good scores should be made.

All those who have heard the VK0CR beacon over the past 12 months, would you please send all details possible to Noel VK3ZPQ or myself as soon as possible.

Well cheers and 73, and a prosperous New Year, DX and otherwise. Cyril VK3ZCK.

### NEW SOUTH WALES

**Hunter Branch:** 52 Mc.—No DX has been worked so far from the Newcastle district, but Hunter Branch member 2ZIO, stationed near Macksville, partly worked a JA on Nov. 6. The JAs were worked from the Sydney district at the same time.

Frank 2ZFX is back on 6, also Kev 2ZKW has had a few QSOs on the net each Saturday and Sunday mornings. Stewart 2AYF, Bill 2ZWM and Mac 2ZMO are the mainstays of the net with odd ones coming in to test their gear.

144 Mc.—Some fair openings have been made to Sydney during the month and signals have been up to 5 x 9 both ways. Bob 2ZGU hopes soon to be on the band from Raymond Terrace with a 3/12 final. 2ZFR has been to Darwin that many times with the Air Force he should know his way blindfolded. Stewart 2AYF and Tony 2ZCT have been hearing signals on 432. 2AYF was able to copy signals from Sydney and play the signals back on tape via 144 Mc. 73, Mac 2ZMO.

### VICTORIA

Activity here mainly consists of 6 mx DX with a sprinkling of 2 mx to VK7. Reports claim that JAs have been heard on 6 and ZLs on 2, but no confirmations have been received. The VK0CR 6 mx beacon has been operating but without its keyer and it is believed to have been heard again in Melbourne. Rod will be returning to Melbourne in the very near future and will bring the beacon with him. It is hoped that a new beacon using semiconductors and valves will be ready to be shipped to Macquarie Island in the new year.

The V.h.f. Group will hold Field Days on Dec. 31, Jan. 1 and Jan 21, also on the National Field Day on 3rd and 4th Feb. Last but not least the VK3 6 mx beacon is on 51.76 Mc. with an aerial power of 20 kw. and about 70 kc. wide. 73 and best DX, Cyril 3ZCK.

**Eastern Zone:** 52 Mc.—The sporadic E season has started here in Gippsland, first ZL opening on 18/11/67 (1915-1935K); first VK opening to VK4, 19/11/67 (1730-1930K), VKs 4ZAZ, 4ZWB, 4ZAL, 4ZBJ, 4ZIS and 4NG, together with VK4 t.v. channels 0, 1 and 2 logged. N.Z. ch. 1 t.v. received again on 20/11/67 at 1840K, and Brisbane ch. 0 t.v. 20/11/67 between 1130-1215K and again at 1955K. Lance 4ZAZ stated it was his second VK opening this season, also he reported the last JA opening was 15/11/67 and 12/11/67 at midday. We cannot transmit on 6 mx band here in Latrobe Valley whilst ATV0 is on "air".

Miki JA4BEX (headache powder) reports JA4IGY beacon will be operating by end of November on 50.050 Mc. A2, 10 watts to a ground plane from Mount Ouza (100 km. s.w. of Hiroshima, an excellent path to VK). It is not continuous operation. Reception reports to be sent to JA4AO Hiroshima (Yamaguchi Pref.). The f.m. net with 50 mobiles is 51.000 Mc. in JA.

144 Mc.—12/11/67, VKs 3ZGA, 3ZCG and 3ZDP worked VK7ZBE, peaking 8 to 9, also heard VK7VF beacon. VKs 5CJ, 3CI, 3ZEF, 3AEF, 3ZER, 3ZNC, 3ZNZ and 3ZNB Wonthaggi have been worked by Gippsland stations last month. 73, George 3ZCG.

**Western Zone.** -Roy 3ZYG and Bob 3ARM are on 2 mx most mornings and work into Adelaide consistently on both 6 and 2 mx between 0700-0800. Active stations in the Zone include Herb 3NN (Yannac), Roy 3ZYG (Kaniva), Bob 3ARM (Servicetown), Bill 3ZAX and Jim 3ZMS (Nhill), Roy 3AOS (Telangatuc), Graham 5ZUF (Bordertown), Gavan 3AEJ and George 3ZEA (Rainbow) all on 6 and 2 mx, and Lionel 3ZLL (Broughton), Brian 3ZFS (Tarranginnie), Norm 3ZUY (Rupanyup) and John 3ZXI (Drung) on 2 mx only.

JAs have been heard in the Zone on 5th and 6th at about 1300 for about 15 mins. and Roy 3ZYG worked two of them on the 6th with signals peaking at S8. Roy and Bob 3ARM worked VKs 2, 4, 5 and 6 on 23rd. 73, Bob 3ARM.

### SOUTH AUSTRALIA

Doug VK8KK has now moved to Darwin as has Jim VK5ZSJ, both hear the VK5WI news which is relayed there on 6 mx. Garry VK5ZK will be portable VK2 over Xmas. Last, but not least, the beacons 53.00 and 144.8 Mc. both on 24 hour operation. 73, Alex.

(Will Alex please let me know who he is as the information supplied in his letter is very interesting, but most of it was reported in Dec. "A.R."—Sub-Editor.)

### CENTRAL AUSTRALIA

Activity in this part of the continent as far as six metres is concerned is almost nil, except for the continuous line-up of JAs who can be worked for 24 hours every day. Bert VK8QQ, in Daly Waters, reports that he has not slept for weeks as there has been no easing up of the number of JAs who appear to have nothing else to do but call him.

As far as two metres goes, you poor devils in the Southern and Eastern States had better improve your converters and Galah perches as we up here have been working Ws, Gs and VEs with monotonous regularity. 73, George VK8GG.

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## Publications Committee Reports

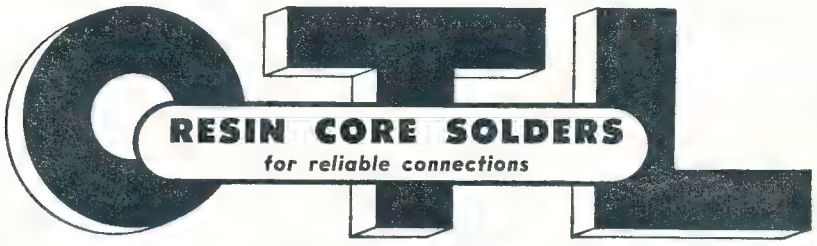
The November meeting was held a week after copy date, hence no report in the last issue. At the November meeting, correspondence was received from VK3QV/W, VK3ASI and VK9TB. Technical articles were received from VKs 1AU, 2SJ, 2ZEZ/T, 3ZOM, 3ZWA, 3ZWG and 6EP.

The circulation manager reported on his discussion with the mailing service, and the steps being taken by them to improve their service. We are still getting many copies of "A.R." returned due to incorrect addresses. We ask all members to advise their Divisions promptly of any change of address and likewise, Divisions should pass this information on to us promptly. Remember, it takes at least two months for us to get our records and stencils altered, hence you could miss out on several copies of "A.R." if you fail to keep us up-to-date.

A further review of "A.R." costs, as they are affected by the new postal charges, was made. It was decided that these be absorbed until the February issue, but thereafter these additional charges will have to be carried by the Divisions.

The December meeting will not be held until after copy-date. No correspondence or technical articles have been received up to the 1st December. The fire in the Melbourne Mail Office caused delays in mail deliveries, but all notes received up to Saturday 2nd have been included in this issue. The tight schedule to which we have to work during December prevents allowing for any undue delays. We, therefore, apologise to any correspondents whose notes have not arrived in time for inclusion in this issue.

CHOOSE THE BEST—IT COSTS NO MORE

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# FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

## FEDERAL

### MEMBERSHIP RETURNS

| Month end. | VK2 Jun. | VK3 Oct. | VK4 Sep. | VK5 Oct. | VK6 Oct. | VK7 Sep. |
|---|---|---|---|---|---|---|
| Life | 15 | 14 | — | 4 | 6 | 7 |
| Full | 797 | 813 | 342 | 372 | 238 | 144 |
| Associate | 361 | 243 | 119 | 134 | 74 | 78 |
| Others | 10 | — | 28 | 22 | — | — |
| Total | 1183 | 1070 | 489 | 532 | 318 | 229 |
| Prev. Total | (1287) | (1058) | (478) | (525) | (318) | (229) |

Grand total of full members, 2752, equals 50 per cent. of the total licensees.

### LICENSED AMATEURS
(Figures for August, 1967)

| | VK1 | VK2 | VK3 | VK4 | VK5 |
|---|---|---|---|---|---|
| Full | 68 | 1312 | 1118 | 463 | 481 |
| Limited | 14 | 411 | 523 | 177 | 223 |
| Total | 88 | 1723 | 1641 | 640 | 704 |

| | VK6 | VK7 | VK8 | VK9 | VK0 |
|---|---|---|---|---|---|
| Full | 284 | 130 | 18 | 63 | 4 |
| Limited | 127 | 75 | 5 | 12 | 0 |
| Total | 411 | 205 | 23 | 75 | 4 |

Total Full, 3947; total Limited, 1567; grand total, 5514.

### FEDERAL CONSTITUTION

Mr. S. McIndoe, of Messrs. Hedderwick, Fookes and Alston, Melbourne, has been given the following documents and has been asked to present all relevant material to the Attorney-General for approval of the new Constitution. Viz.: the present Constitution amended to provide for Incorporation, the proposed Constitution with the relevant amendments from this year, copies of financial statements for the past three years, and photocopies of constitutional motions from official Federal Council minutes.

### FEDERAL TREASURER

Kevin Connelly, VK3ARD, has resumed duties as Federal Treasurer, and Executive wishes to place on record its thanks to Tom VK3ZIQ who acted as Treasurer during Kevin's absence overseas. One of Kevin's first tasks will be to analyse the Federal Convention expenses from Hobart, and indicate to Divisions and Federal Councillors the extent of any further financial indebtedness as a result of that Convention.

### T.V.I. CASE

In the last Federal Bulletin, reference was made to a t.v.i. case. A recent letter from the Controller, Radio Branch, P.M.G. Department, states: "With reference to our recent discussions about television interference caused by the operation of an amateur station at Inverell, N.S.W., I have been advised that this matter has now been settled to the satisfaction of all concerned."

A letter from the amateur to his Federal Councillor, forwarded to Executive, indicates that he was involved in some small expense in rectifying the complainant's t.v. receiver. This in no way sets any precedent, as it is a matter of determining in each case, looked at separately, what is reasonable in that particular case. It is apparent that the amateur felt that on balance, it was reasonable in this case to pay the necessary expense, while still holding the belief that the amateur should not necessarily be responsible for the expense involved, as a matter of principle.

### FEDERAL AWARDS MANAGER

Bill Hempel, VK3AHO, our recently appointed Awards Manager, indicated recently to the Federal President that the amount of work is increasing very rapidly, this fact coupled with increasing work problems and domestic difficulties has resulted in a bank-up in the issuance of awards, etc. Bill has asked that Executive relieve him of the position of Awards Manager, as soon as possible, but in the meanwhile he will carry on as his time permits. Executive is therefore looking for a successor to Bill in this office.

### INDONESIA

Executive has been in correspondence with the P.A.R.I.—Persatuan Amateur Radio Indonesia -(Indonesian Amateur Radio Union) and other Indonesian Amateurs who have written asking for assistance. P.A.R.I. states that "After 17 years of prohibition, the Indonesian Radio Amateur is now allowed to be on the air again." Indonesian Amateurs have been worked, but still using the PK8 prefix rather than the 8F prefix. Executive has taken steps to verify this operation, and to ascertain the status of P.A.R.I., the name of their licensing authority, etc., also quite a deal of material such as back copies of "A.R.," copies of Handbooks (s.s.b., v.h.f., etc.), call books, Stanford Research Reports, specimen Y.R.S. courses, constitutions, QSL information, etc., has been sent to P.A.R.I. and others. (Some of this has been sent by the Federal Secretary personally to individual Indonesian Amateurs with the result that I find my own library somewhat depleted. Please can someone give me an unwanted copy of the January and July issues of "A.R." The publisher is out of these, and so am I! Please?)

### INTRUDER WATCH

The following paragraphs from a letter received by Federal President from the Hon. Organiser, R.S.G.B. Intruder Watch, may be of interest to members:

". . . When the presence of an Intruder station is confirmed, the G.P.O. sends reports to the administration concerned and this usually does the trick. Intruders that have been moved recently include Radio Pakistan 7008 Kc., RMY (printer) 21044 Kc.., RKA73 Moscow (Facsimilie, second harmonic of 10711 Kc.) 21422 Kc., EPD Tehran 7010 Kc., ZAG Tirana 7096 Kc., Radio Monte Carlo 7085 and 7097 Kc., Radio Tirana 7090.

". . . Our biggest problem is Radio Cairo who has three frequencies in the 40 metre band, and of course Radio Peking who has eight frequencies in the 40 metre band. Repeated letters to Peking usually result in a letter being received pointing out that as they are not a member of U.N. they are not bound to stick to frequencies laid down by I.T.U. convention."

### T.V. REPEATER STATIONS IN QUEENSLAND

This month a request for investigation of a report from a "usually reliable source" that a t.v. repeater on Channel 5A was to be established in the Nambour area, was received by Executive. Consultation with Central Office P.M.G. Department, indicates that the Nambour channel is planned as 5, not 5A. It would assist F.E. if any requests to investigate such matters were supported by names, dates, places, etc., rather than the rather nebulous "usually reliable source."

### JAMBOREE-ON-THE-AIR

Advance notice has been received that this activity will take place in 1968 on the week-end of 19th and 20th October. It appears that this year less stations participated, perhaps because of the earlier date, so 1968 has returned to the more usual mid-October week-end.

### MEMBERSHIP

As can be seen from the first item in these notes, our full membership hovers around the 50 per cent. mark still. It is known that some Divisions are conducting a membership drive, perhaps it is relevant that A.R.R.L., in their latest Annual Report, indicate that there has been an increase in their membership. They send each new licensee a "congratulations" mailing, and a follow-up mailing stressing the value of "QST," etc., to the newcomer. There appears to be about a 20 per cent. overall effectiveness of this procedure, also experimentally QSL Bureaux sent out membership blanks with information on League services with cards to non-members. In addition forms are always enclosed with replies to queries from non-members.

### MAGAZINE SUBSCRIPTION RATES UP

Dick Ross, K2MGA, Editor of "CQ" magazine, indicates that as a result of increased postal charges and printing costs, they have been forced to make the first rise in subscription rates in eleven years. The sub. will rise $1 p.a. effective 1st March, 1968.

— . . . —

## SILENT KEY

It is with deep regret that we record the passing of the following Amateurs:

VK2PV—Peter Vesper
VK4BH—Harold Brown

## FEDERAL QSL BUREAU

Gene Krulish, W6QVN, in forwarding QSLs dating back many years, adds that he is returning to sea as Sparks after an absence of 19 years. Will be active as maritime mobile.

The results of the U.S.S.R. 50th Anniversary of the Revolution Contest, 1967, contains the following VK stations, both of whom won certificates and medals: VK3AXK 8712 pts; VK3APN 752 pts.

The disastrous fire in the mail exchange, Melbourne, at end of November, destroyed 200 bags of overseas mail. It seems certain that many incoming QSL despatches would be amongst the contents of the destroyed mail.

John VK4HG closed down on Willis Island on November 16 and has returned to VK3. His replacement at Willis is not a Ham. John has taken delivery of all accumulated QSLs and promises to reply to all in a little time.

—Ray Jones, VK3RJ, Manager.

— . . . —

## NEW SOUTH WALES

### COUNCIL NEWS

Council activity over the Christmas holidays was limited so there is little to report. Council remind members that the Convention is on during the Australia Day week-end. Details of the Field Day and its location can be obtained from the Divisional Bulletin and VK2WI broadcasts.

President Ken Finney has invited critics of the Council or its officers or other administration to submit their criticism to Council in writing and they will be replied to. In response to the only letter so far received, Ken advises that a statement will be published in the Bulletin.

### CONVENTIONS AND FIELD DAYS

It is understood that several Conventions and Field Days were held in N.S.W. late last year. As no information has been received of the Field Days, I assume they are of no interest to readers of "A.R."

### NOVEMBER GENERAL MEETING

The November general meeting was held at Wireless Institute Centre on 24th and was well attended. The meeting was opened by President and Chairman, Ken Finney, and the brief formal business conducted included the acceptance of quite a number of new members. Visitors were JA1NDO and ZS6BJ.

The lecture for the evening was given by Mr. Peter Stokes, of D.C.A., which he called "Making Waves in the Beautiful Countryside." In explaining this odd title, Mr. Stokes read a quote which said that Italy was a beautiful country. In his explanation, he said that during a working visit to the north of Italy he could see that beauty was a matter of opinion. Mr. Stokes then showed many slides of this part of the world and included some fine shots of Venice. The many slides taken were of excellent quality and were enjoyed by all. The vote of thanks given by Bill 2YB was appropriately carried.

The lecture set for January is on Log Periodic Antennae and will be given by Dr. Guertler of the University of N.S.W. The lecturer is recognised as an authority on this subject and will include the amateur aspect in this lecture.

### W.I.C.E.N. NEWS

Arrangements are in hand to hold an exercise in the Orange-Parkes area of Orange district members. Some Sydney members will most likely take part. Details will be given in Sunday broadcasts.

73, Stan 2ZRD.

### HUNTER BRANCH

My faith in tinfoil lined jars, columns of mercury and all that has been shattered since I attended the Branch lecture on Friday, 3rd November. According to Barry VK2ZAG all these have changed and after listening to his discourse on components I'm afraid I must agree. Having done battle with the Department of Main Roads on National Route 1, all blocked with landslides, boulders and the rest, one would have thought that Barry would be loth to enter into discussion with the argumentative types at a Branch meeting—but he did, and he convinced the members and visitors of the quality of his firm's produce in no uncertain manner. We learned which type of capacitor is best for certain applications, which resistor has the best non inductive characteristics, and even which supplier hasn't got a clue about the availability of newly developed bits and pieces.

Much to the delight of all we in this part of the world, news has been received that the Branch, as we have always known it, now exists. The area as shown on the Hunter Valley Research Foundation's map has been accepted by the Division as the true boundary of the Branch. Since the Hunter Branch was inaugurated by the late Jim Corbin, it has been generally assumed that the boundaries of the valley were the limits of the Branch. Now according to word received from Sydney, we are in accord with Divisional thought on the matter, so all is well. I doubt that this move will make my readership grow, but, nevertheless, I can always say I tried.

Now that six metres is coming good again the boys are having an almost continuous field day on this once neglected band. Henry 2ZGK reports the most frustrating experience of having heard all those VK7s nattering away while not being able to reply; and to balance the book, Kev 2ZKW reports the ultimate in timing. Apparently it so happened that Kev had invited some friends who had come from the old dart—not right at that moment you'll appreciate—to visit his shack and see what this Amateur Radio lark was all about. Well, they duly arrived and as Kev says, "Knowing that it's always too noisy, or too dead on the bands to ever have a contact when the visitors arrive, I prepared to tell them the old story of how good it was last night, or on two metres, or whatever, when six came good." Conditions were so good that Kev amazed his friends by having an hour long talk with 5LQ on six metres at 5 and 9 both ways. Kev has every reason to be doubly pleased since only two nights before, his Club, the Maitland Y.M.C.A. Radio Club, had put on a prize-giving night and social for all his hard working students, who were presented with their Y.R.S. and S.W.L. awards. Jack Flynn, VK2 Secretary of Y.R.S., did the honours with the incentive packets for the Elementary candidates and guess who gave out the S.w.l. prizes. Yes, right again, old dial-a-country himself. Only one thing was wrong—too much cake afterwards to re-inflate my newly slimmed 17 stone figure. Oh the temptation!

With typical 2XT ingenuity, Bill from Toronto has devised a new sort of beam called the umbrella quad. Although not sure of whether it's absolutely original, one thing is certain. It works like a beauty! Recently Bill was able to work 23 JAs in succession on 15 without lifting a number 12 fuse, but that's another story. And all this time the beam was only six feet off the ground. What will happen when it gets up to the top of that new pole in the back garden is anybody's guess.

If you ever go across the seas to Hamilton South just look in at the pill punchery of Ian 2ZIF, but make sure you've got your binary logics all in order, for there you will see something really new. You thought I'd tell you all about it, didn't you? Well I'm sworn to secrecy just now but I am a friendly zone correspondent—I accept bribes. So if you can't get along to see ZIF, a well placed contribution in this direction will bring the desired result.

A horrified look crossed the face of a well known v.h.f. man the other night when he was handed an envelope bearing the words, "You may have the negative of this for ——", a large sum of money I can tell you. Great was his relief when he found the picture was of himself quaffing an ale at the recent Bolton Point Field Day—all in technicolour too! From a most reliable source I have it that Belmont Bob, 2BOB, is mobile. Our old bachelor pal, John 2ZBD, has left the security of his former days and taken unto himself a wife, so they say. So that's what the Army did for him. Up at the Terrace, Mac 2ZMO's beam bearings have had to be water-cooled since the 6 mx season began. John 2XQ has been heard back on the air with a huge signal and I've sent Don 2BAE a QSL. Surely 1968 is having a serious effect on us all.

All you keen chaps who rushed off to the January meeting of the Branch and found no one there are reminded that the next meeting will be on Feb. the two. That's a Friday, by the way, and we hold all general meetings in Room 6 of the Clegg Building, Newcastle Tech. College out at Tigers Hill. Something of wondrous interest has been planned for that night but, since nobody has told me what it is, I'm going along to find out. With a bit of luck I'll be there on time, my New Year resolution being to try to arrive a little earlier. So maybe I'll see you, 73, 2AKX (and it's sure to be great in 68!).

### CENTRAL COAST RADIO CLUB

Friday 17th saw the November meeting of the Central Coast Branch, with the topic of the lecture being "Electronic Developments in Civil Aviation." Mr. Vaughan Wilson, 2VW, gave a very interesting outline of the developments in civil aircraft communications, from its infancy in Australia to the present day "revolution". The years have seen the progression from simple communications using Morse, development of distance measuring beacons, to the various sophisticated navigational and communicational aids of today. The session closed with an active question time, and a vote of thanks to Vaughan for his talk. 73, 2TS.

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## VICTORIA

Victorian Divisional Council met on Monday, 27th November. Apologies were received from 3FE and 3ZEL. Visitors to the meeting were the Federal Secretary, 3OR, with his assistant, 3IZ, and 3ZPQ.

Once the routine business was finished, Council considered a report on the W.I.C.E.N. vehicles, and a request for additional funds to complete the project. After lengthy discussion, Council voted an additional $200 to this project.

Noel 3ZPQ then explained that those responsible for the 6 metre beacon at Macquarie Island wished the W.I.A. to approach the P.M.G's Department for the allocation of the call sign VK0VF, rather than having to use the call sign of whatever Amateur may be on the station. Noel was given information on what details the Department would require, and once this information is available, the Federal Secretary undertook to approach the Department.

The Federal Secretary reported that the VK2 Federal Councillor had queried the establishment of the W.A.V.N.P. and W.F.A.N.P. by the Victorian Division and how they were affected by the Federal Policy Book. Examination of the Policy Book revealed nothing on the subject and that no infringement of Federal policy had taken place.

The Divisional President reported having contacted various motels in the Bairnsdale/Paynesville area and made reservations for the State Convention, as well as with the owners of the Lena Bird (capacity 180 people) for the week-end 9th and 10th March. It was resolved that all zone secretaries be advised immediately that the State Convention will be held over this week-end. This week-end was selected as no zone had intimated that it was holding its Convention at this time.


WANTED URGENTLY

A.O.C.P. CLASS INSTRUCTOR

Commence duties third Tuesday in February. For details, remuneration, etc., contact Secretary, Victorian Division, W.I.A., 478 Victoria Pde., East Melbourne, 3002. Telehone 41-3535.


Our Secretary reported on the successful resumption of the 40 metre a.m. broadcast. This broadcast was resumed without any prior announcement and the response to the first call-back was most gratifying, especially from country areas.

The representatives of Federal Executive spoke at length on their proposals for Region III. (see November "A.R."), but as F.E. will be reporting at length on this subject in due course, no report will be made in these notes.

Federal Councillor reminded the meeting that the appointments to Federal Executive have to be made at the December meeting and invited all members of Council to give thought to this matter prior to the next meeting.

The I.T.U. Fund is slowly crawling towards the target figure. Donations have been received from the following: $10—3AG, 3SS; $5—3ZOV, 3RM, 3ZX; $4 3OR, 3DM, 3AUO; $2.50—3ZVH, 3ZBB; $2—3JC, 3APG, 3PR, 3XJ, 3ZWW, 3ZNB, 3AUN, 3ZDG, 3AWZ, and L3201; $1—3AVY, 3AZG, 3AMV, 3EM, 3LC, 3ZVB, 3AVQ, 3AUM, 3DU, and L3258; 50c—3LK and 3ARO.

Membership of the Division continues to grow and the following people were accepted by Council and recommended to the December general meeting: VKs 3ALN, 3AZJ, 3ZAV, 3ZHN, P. L. Beckett, A. T. Doyle, P. H. Lie, S. G. Mizon, R. Muir, K. A. G. Oakley, J. Reynolds and D. van Elkan.

As neither Mrs. Bellairs nor Mrs. Mackie is able to attend the office during the school holidays, Council agreed to engage temporary staff for this period. Miss D. Hurt will be in the office during the holiday period, and will do her best to keep the wheels turning. If you do not receive the usual high standard of service please bear with her, as she will come in as "a raw recruit".

### WESTERN ZONE

Bill 3ZAX has been caravaning in VK5, operating portable on 6 and 2 mx. Roy 3ZYG is the only zone member known to have worked JAs during a recent short opening. Both Roy and Bob 3ARM worked five States in one day on 6 mx. Lionel 3ZLL has returned from a trip around Australia. Ray Leskie and family are at present enjoying a well earned holiday in VK3, after which they will be returning to Mission work in N.G. for 12 months. Ray will be using a FL200B s.s.b. transmitter with a FL2000 linear and hopes for contacts with Western Zone members.

Roy 3AOS reports good conditions on 10 mx, 5/9 sigs to the U.K., also Denmark and Germany. Roy uses a 3 el. yagi 76 ft. high. Tony 5ZAI is getting mixed up in the film making business -need any extras Tony? Jim 3ZMS is trying to tame a 6/40, so he can get back on 2 mx. Herb 3NN and Gary 3ZOS are pleased that the S.E.C. have started the extension in their area. Passers by in Firebrace St., Horsham, recently were intrigued to see a t.v. antenna on a car. Two spies were listening to the varied comments. "Look t.v.!" "No, it's a telephone!" Roy 3ZYG was attending the Zone Convention. 73, Max 3AR.

### EASTERN ZONE

CQ Eastern Zone. The first notes for 1968. The President and I wish all Zone members and other readers the compliments of the season and happiness, health and prosperity for 1968. A good 6 mx DX session was had on Sunday, 24th Nov. last to VK4. New Zealand t.v. was seen and heard on evening of 26th Nov. last at 3ZCG's QTH. The Zone has quite a number of S.w.l's; one, Ken, has got his 3rd class commercial ops. cert. We hope to get some of them Associate members of the W.I.A. George 3ZCG is lecturing to the Latrobe Valley Air Cadet Corp every Friday evening. Keep it up Geo. I am interested in the Intruder Watch which is being inaugurated by Federal Council. Sorry no news for the h.f. boys; have been busy on construction of two metre converter, this last month, so have lost touch. That's all there is chaps for this month. 73, best DX for 1968, Albert Cash.

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## QUEENSLAND

### IPSWICH AND DISTRICT RADIO CLUB

Christmas comes but once a year, the old saying goes, and thank heavens, some of our club members have added. By now the elderly gent with the long white beard and red coat will have visited all the club members' shacks, and I hope he has been most generous in what he left. According to what was left in my stocking, I have a reindeer somewhere but a quick check around the shack has not located "Dasher" yet.

Several club members attended the Hamfest at Kingscliffe last month and a good time was

had by all. A number of VK2s were met and a lot of old VK4 acquaintances renewed. Two old Ipswich identities, namely Bill 4WS and Ross 4ZAT, attended and it is mentioned that both may be present at one of our club meetings in the near future. Ross had a transistorised exciter (6 mx) which attracted a great deal of interest, and Ross used this exciter to contact our club members on the way home. While passing through Tweed Heads, several of our club members contacted VK3s coming in on the break-through.

The club's annual dinner was held on Dec. 13 and approx. 30 members and YLs and XYLs attended. After the dinner, a social evening was held and supper was served. The club will not be going into recess this year as usual, because the majority of members will be about at Christmas so the meetings will be held normally.

Cyril 4CR has now received his call sign and has been giving it a fair airing, believe his first contact on 40 mx was with Andrew 4AT. Andrew must be just about due to qualify for a club certificate, he has contacted almost all our club members.

It is with deep sorrow we report the passing of one of our ex-Ipswich Hams, namely Harold Brown, VK4BH. Although Harold was not a club member, he lived for a number of years in Ipswich and was very active here with his old call sign, 4HG. He moved to Brisbane and acquired his old original call sign, 4BH, which was originally taken off him to be given to a commercial station in Brisbane. To Harold's family, all club members express their deepest sympathy.

Club President Ron 4RG has been busy etching crystals to suit our new 2 mx net of 145.2 Mc.; seems he over stepped the frequency by a few kc. and an attempt to lead it up was not too successful. Ron now has three crystals and none are on the net frequency, also it appears he needs two new crystal holders; they do not need to be as large as the orginal holder.

The camping fraternity will have a field day over the New Year week-end with a camp out at the river near Ipswich. There is a possibility of some activity if the 240v. generator is finished in time; if not it may be batteries for the power supply.

All members of the Ipswich and District Radio Club have asked me to wish all the readers of "A.R." a Happy and Prosperous New Year, and good DX. 73, Warren 4GT.

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## SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for November was held to an average attendance of members and visitors. The heat of the day obviously kept quite a number away. The guest speaker for the night was Mr. Brian Chase, of Philips Electrical Pty. Ltd., who chose as his subject, the design and manufacture of printed circuit boards. Mr. Chase gave a very interesting and entertaining lecture and produced an endless supply of samples of the craftsman's work to illustrate his point, and all in all, members were given an up-to-the-minute talk on the production of the printed boards by a lecturer who undoubtedly knew his subject, and one who was prepared to answer any questions on the subject. The vote of thanks proposed by Ron 5KS and the applause that followed, was a clear indication of the success of the lecture, and again showed how lucky we have been this year with the standard and entertainment provided.

The business section of the evening then followed and a letter was read from the Electrical Workers and Contractors' Licensing Section which made it quite clear that no grade of licence would be available to Radio Amateurs as such, and whilst it is intended to take up the matter of promises already made, it can be safely said that there is not much hope of success. This is a complete somersault from what we were given to believe when we had our interview with the Minister concerned, but it was ever thus! Nevertheless, Council is not going to let the matter drop as yet, although it now appears as a waste of time to get us a grade of licence, try as hard as we like.

No Federal business, and very little general business brought the meeting to a somewhat early close, although when I left the members were still clustered around the samples of printing circuit boards still on display.

Noticed Uncle Joe 5UJ, from Whyalla, at the meeting and he said that he was down on business, and all I can say is that anybody that is shrewd enough to engineer a business trip that coincides with a Divisional meeting night, is sure some business man.

The v.h.f. annual picnic went off with a bang, over 64 call signs attended, and a jolly good time was had by all. Although this picnic is organised by the v.h.f. gang, judging by the number present, it is almost a W.I.A. picnic, and whilst the group are to be congratulated on their efforts, I believe a special mention must be given to Bob 5ZDX for the hard work that he puts into this annual event.

The attendance at the Associate Members' night was doubled, so I am told, and as usual finished up at Geoff's (5TY) QTH for a little refreshment at the close of the meeting. This makes good reading, because with our high Associate membership numbers, some 200 odd I believe, we should do all we can for them, but it is a little hard to do this if we don't hear from them just what they would like us to do. So, go to it boys, say what you want, and Council will try to oblige.

Claude 5CH and his XYL came down on a visit to the City of Culture and called in for a short visit, short from Claude and my reckoning, we never get enough time to discuss everything that should be discussed. I thought I detected a slight leaning towards "The Thing" in his conversation, or should I say a slight leaning towards what appears to be the inevitable to Claude. A sorry state of affairs. Nice to see you both.

Understand that Stuart 5MS is off on a jaunt to W-land, in the near future, to see his daughter who resides over there. I have written to him to see if he wants anybody to carry his bags on the trip, but so far there has been only a dignified silence. The last time I arranged a trip for a certain VK2 YL, I got my husbands mixed up and instead of carrying her bags, I spent a week or so in my hills hide-away waiting for the consequent uproar to subside. Oh dear, oh dear.

One piece of good news for this month. One of my espionage agents from the S.E. tells me that Kevin 3AKR has crossed the border and has become a VK5 resident, and it is even rumoured that he will eventually take out a VK5 call sign. That is one of them that has seen the light, willingly or unwillingly, and it will help to keep Pincott (3AFJ) on his toes.

Gordon Danks, from Mount Gambier, has applied for Associate membership in the VK5 Division, and will be more than welcome. He is as keen as mustard on the hobby of Amateur Radio and when he returns from a projected trip to G-land, he intends to get right down and get his ticket. Good to hear it Gordon. What about a QSO when you come on the air. What's that? Don't you believe it, I am always on the air. Beacon Parsons they call me!!

Colin 5XY—my favourite doctor—is off on a motoring holiday to VK2, accompanied by his charming bride, Sally, and upon his return will take up residence at Evandale. The last time I contacted him was when I was at my holiday shack at Oakbank, and I was introduced to Sally at the same time. Best of luck and good wishes for the future to you both. That should get me a free check-over—or something—probably or something!!

Carl 5SS heard dithering about water divining on 7 Mc. the other early evening, apparently he had been looking at the same session on t.v. that I had, and was offering to locate water for anybody and everybody, anywhere and everywhere, but I notice that he would do the divining, but made it plain that he would have nothing to do with the digging part of it. How shrewd can they get?

Frank 5MZ appeared very interested in the divining lecture mentioned above, but was also quite adamant that he would have nothing to do with the digging part of it. Just how these blokes think they are going to get water without digging for it beats me, anyway, with Frank almost on the brink of giving hard work away and putting his feet up, he certainly won't be interested either in a pick or shovel, unless it is to whack Carl on the boko every time he comes to light with some way or other of leaving the easy chair. See you on 14 Mc. c.w. some afternoon Frank? or will that be too energetic?

Have you heard the story of the Radio Amateur who dreamt that he went to a country convention where, at the door of the hall, all of the visitors were allowed to pick a piece of apparatus from a big box, and what's more, were allowed to keep the said apparatus and take it away with them. Well, it goes without saying that all of the visitors lined up for their pick at the box and our hero well to the fore. The first visitor said he would take the mod. transformer, and was handed this with an extra gift of two bottles of beer. The next one took a brand new receiver, plus two bottles of beer, and this was followed by a third who took a linear amplifier, plus two bottles of beer—and so on, and so on—until it came to our hero who discovered to his amazement that at the bottom of the box was a brand new "Thing". He nearly fell over backwards to pick "The Thing" and was also handed two bottles of Coke, which caused him to put on a grizzle to all concerned. "What's the idea of this?" he said. "Everybody else gets a bonus of two bottles of beer and I get two bottles of Coke with 'The Thing'." The entire gathering then stood up and loudly sang, "'Things' go better with Coke"!!!!! Okay, okay, I thought it was good, and anyway it gives me an extra paragraph. I have no conscience!

Passing an outdoor fete the other day, which incidentally was being run under the auspices of the Clarence Park Kindergarten, I noticed a vehicle plainly marked with the "Batman" sign, with Batman and Robin in attendance. Doing a little snooping, I discovered that some of the local VK5 boys were lending their aid toward a worthy cause with Max 5GF providing the p.a. set-up, Geoff 5TY was attending to the microphone section of the work, and the "Batman" driver proved to be 5ZEZ. The Kindergarten hall being rented by the Division at times for meetings, apparently somebody was engaged in some public relations, no doubt appreciated by the Kindergarten Committee.

Uncle Tom 5TL has just returned from a fishing holiday at Kangaroo Island, with a good time being had by all. In view of the fact that no samples of his skill have so far found their way to my QTH, I cannot give him a grading in the piscatorial art, but if he tried his wiles on the poor unsuspecting fish in the same manner as he tries to dispose of his W.I.A. publications to the members, then I would have no hesitation in giving him the "A" grade belt!

Understand that at a recent W.I.C.E.N. exercise there was a little confusion due to a mixup in the destination of the opening message. The 146 boys had plenty to do but the 53.1 gang spent plenty of time kicking their heels. I can just imagine the antics of Simon Legree (5TY) as all this went on. I will bet his recent visit to the School of Modern Language paid off!! Anyway, the barbecue following the exercise, assisted to sort out a few things. Always remember fellows, whilst his mouth is occupied chewing, he is as meek as a lamb, or as docile as a sausage. Get it? Meek as a lamb, etc.,—barbecue—okay, I thought it was original.

Probably as a result of indoctrination (brainwashing to you), Mos 5TU, close associate of Neil 5WN, is embarked on the project of building "'The Thing". As Neil has been on a similar project for some time, the finger of scorn can apparently be pointed right at him!

A little bird tells me that the "Disposals Committee" is thinking of a new title, in view of the fact that disposal items seem to be a thing of the past. This may be so, but they have done such a grand job under that title in the past that I feel the old name should stand. Anyway, as chairman, Gilbert 5GX will come up with an appropriate name. He possesses that happy knack of always doing the right thing. How's that Gilbert? That should get me some more sweet peas!! Or at least some seeds for the XYL.

Incidentally, the VK5 Division has acquired a number of blue transfers of the Institute badge, suitable for placing on the rear windows of cars, always providing that they do not obstruct the view of the rear vision mirror. They can be obtained from the Publications Officer, Uncle Tom to you, at a very reasonable price, but don't forget they are a transfer, not a sticker.

Quiet, but thoroughly efficient work is being done for the Y.R.S. activities in VK5 by John 5UL, who makes it his business to contact the leaders of the various clubs during his trips around the different parts of the country. This is much appreciated by the clubs concerned, as visits from the city executives are few and far between, due of course to the distances involved.

Reg 5RR has not been very active of late but appears to have shaken out the spider webs from the gear, repaired the antenna, and a couple of other things, with the result that he is now being heard very nicely thank you. He has tried to operate from his business premises without much luck, mainly on account of it being in the bottom of a gully. By the way, he claims that he is working harder now that he has retired, than he ever did before. More power to you, Reg.

Phil 5NN, the protector of "The Thing" to you, called in to see me the other evening, ostensibly to lend me a couple of R.S.G.B. magazines, but actually to give me a list of newcomers to his realm. I thought he was acting a bit hoity-toity, or probably carried away with his success in recruiting to his cause. But all was well, he only had a stiff neck, brought on by too much lawn mowing. We a.m. operators never got a stiff neck!

Heard Col 5RO in contact with a station which was maritime mobile, but in a slightly

different way. The station operator was on board a passenger ship coming home from a vacation somewhere or other. I only came in on the closing stage of the contact and did not hear the maritime station, but would hazard a guess that Amateur Radio aboard a passenger ship was a little out of the ordinary, especially coming from a vacation.

Ken 5IM also heard in contact with Jeff 2AHM and Charlie 2AXL the other early evening, or should I say late afternoon, and he sounded fit and hearty. I have not heard him for some time, although after seeing and hearing the strength of his signal, I am beginning to wonder just why.

Jeff 2AHM was off on one of his Australian stories, this time about a cod which weighed 70 lbs., and cleaned at that, finally capping it all by saying that the river was so clear in parts at the moment that the fishermen are using guns to shoot the fish with the aid of spotlights. Is he fair dinkum, Ken? The last story I heard from him had kangaroos flying around like birds in their thousands!!

My information regarding Jim 5FO as having gone with "The Thing" turned out to be more than correct. I have even heard him. To show just how far "The Thing" will lead one down the road to destruction, I also heard that he was seen tripping the light fantastic at the Mayoral Ball with a Rae-diant young XYL on his arm. Goodness gracious me!! Why won't they heed the gypsy's warning?

The VK5 Advisory Council has set something of a record, I believe. They have all signed up for another year, and not one was shanghaied, or so they say. I will have to look into this, 'twas not always thus, can I be missing something, are they serving tea and biscuits?

Vic 5JH heard mobile on the way to Perth this week. He called in to see Rex 5HO at Kimba, and I heard Frank 5MZ calling and calling him, but with no success.

Great news greeted me this week in our daily paper, and I quote: "Drinking water from the Yarra—the only river that flows upside down—is not a thought that would appeal to most visitors to Melbourne, but Melbourne householders soon will be receiving a shandy of Yarra water from their taps because of the city's desperate water shortage." Well, Pincott (3AFJ), what do you say about that? No more slinging off about our River Torrens, at least we are not drinking it—YET!!

Well, here we are again, another New Year coming up. May I wish all Divisions a Happy New Year from the VK5 Division. May it bring you all that you desire, and may it be a happy one for you and yours. 73, de 5PS—PanSy to you!


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## WESTERN AUSTRALIA

Happy New Year everyone, may 1968 be the best yet, both as regards Ham Radio and personal matters. It seems rather ironical that although we are concerned with a medium of communication which to a large extent overcomes the barriers of time, I must nevertheless extend seasonal greetings at this time (late November) in order to reach you by January. Ah well, never mind, as long as you eventually receive all the luck I wish you.

It is with deep regret that we note the untimely passing of Bill Wedemeyer, VK6DR, who will be greatly missed by his many friends on 15 metres. Sincere sympathy is extended to his wife and family.

Congratulations to John 6ZW for his win in the 40 metre scramble. Without in any way detracting from John's win, the contest was poorly patronised again this year. Of the very small number of participants, only five completed the debacle by submitting logs. Considering that this is virtually our only local contest, it is a disgrace and should be discontinued. What about a lead from Councillors and Contest Committee who were noticeable by their absence.

At this stage there has been no overwhelming rush of volunteers to take over as Federal Councillor when Roy 6RY relinquishes the position. What about it men? While you are scratching the noodle, see what you can cook up in the way of agenda items in readiness for the big parley at Easter time.

There are not too many Hams who can boast a silver QSL card. Jim 6RU is one who can. At a recent meeting, Jim was presented with a silver replica of his card, suitably mounted, in recognition of 21 years of outstanding service as QSL Officer of this Division. After the presentation, Jim sought permission to carry on with the job for at least another 21 years.

News to hand that the Australis beacon has hitched a ride in a balloon which is intended to ascend to the height of 120,000 feet, hope some of our boys will copy its keyed "Hi" on 29.45 Mc.

Also at this time comes news of further transcontinental contacts on 6 metres. A VK7 station was also copied at good strength.

Max 6ZFM, at Bridgetown, has also been worked from Perth, but it is interesting to note the fact that at both ends the beams were pointing East!!

If you aren't lucky enough to strike a break-through to the East, what about bending an ear to the North, where Bruce 6ZBV at Carnarvon is seeking refuge from t.v.i. and listening hopefully for Perth stations.

Did you get a load of "KK" at the meeting the other night? Toting that chick around—a bit of fowl work there if you ask me. Okay, so no-one is asking me—but keep an eye on him, there may be another kind of wild fowl on the menu soon!

And talking of menus—the get-together at the Play House was booked out in very quick time. This should be very heartening to our Social Secretary.

Had a brief visit recently from Peter G3VEU who has just stepped upon these sunny shores. He wasted no time in applying for VK6EU, although his gear was still reclining gracefully on the wharf back in G-land. Peter should, by this time, have taken up residence within QRM distance of Cliff 6NK and Clem 6CW.

Which reminds me, Clem, what is this bedstead antenna that I heard you telling someone about?

Dave 6WT, that keen stalwart of the brass, tells me that his s.s.b. rig is operative on 20 mx, however I'll bet that the key never gets a chance to gather dust in Dave's shack.

South Western spy Hdq. has slipped me the word that Cec 6KK has been seen skimming around the territory on his velocipede and also in company with Mal 6SM.

The "Razor Gang" now in residence on 40 mx have been joined by Wally 6WG. Another new call heard on this net recently was David 6VB.

It is pleasing to see that Aub 6XY is becoming a more frequent visitor to our meetings and on the last occasion managed to bring Max 6ZER with him. I believe this was the first occasion on which Max has been present at one of the meetings.

Bob 6BT has been busy erecting vee beams and must certainly have quite an aerial farm assembled at his QTH. Just in time for those Europeans on 15 mx of an evening Bob!

After one or two minor setbacks (or can losing your final bottle be classed as minor?), Bill 6WY has his Heathkit operative on 20 mx.

Well, that wraps it up for a little while chaps, and may I again extend to you the Complaints of the Season. 73, Ross 6DA.

# HAMADS

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**BORROW** or hire for a fortnight: 230v. petrol generating set to deliver half amp. or thereabout. The unit would have about six hours use. I propose to cross Nullabor desert in second half of February 1968, would like to operate on 40 mx on two evenings between Pt. Augusta and Norseman. But need 230v. at half amp. Security for safe return of the unit provided. Bob Boase, VK3NI. Phone 34-9491 (Melb.).

**FOR SALE**: AMR200 (Super Pro) Receiver, 1.2 to 30 Mc., prod. det., etc., p.s., spkr., in mint cond., $90. 35 ft. Lattice Tower, all fittings, $20. Command Tx's, 4-5.3 and 5.3-7, $10 ea. 522 Tx, $10. 20 mx Tx, 3 stage, 100TH final, prof. built, $20. 850 volt ½ amp. trans., $10. 6 and 10 mx Conv., very sensitive, $15. 6 ft. Cabinet Rack, $10. Also many transformers and parts at bargain prices. Offers accepted on any above. VK3AXR. Phone 57-5303 (Melb.).

**FOR SALE**: Davco DR30 Transistorised Communications Receiver, mechanical filter, crystal calibrator, noise limiter, complete with power supply/speaker, as new, $400. J. G. MacIver, 21 Hurd Tce., Morningside, Brisbane. Phone 95-2541.

**FOR SALE**: Drake TR3 Transceiver with RV3 remote v.f.o., a.c. and d.c. power supplies. Excellent condition. $900. T Huntley, 6 Raymond Rd., Glenbrook, N.S.W., 2773. Phone Glenbrook 7-1755 or Penrith 77-4101.

**FOR SALE**: Galaxy 3 Transceiver and power supply, handbook, etc., $375. Hallicrafters HT37, 240v. a.c. Transmitter, s.s.b., d.s.b. and c.w., five bands, Cardioid mike, s.w.r. bridge, antenna tuner, and handbook, $300. Hallicrafters SX101A Receiver, a.m., c.w., s.s.b., five bands, 240/110v. transformer, speaker, Dow Key ant. change relay and handbook, $220. Frequency Meter, BC221-AG and p/s., handbook, $40. Scope Iron $6. 50 ohm Co-ax. $10. Details VK3AKS, Phone 36-3421 or 719-7283 (Melb.).

**FOR SALE**: "Geloso" G222TR Transmitter, six bands 3.5 to 28 Mc., a.m. phone and c.w., 65 to 75 watts, no alterations to circuit, clean condition; complete with plugs, "Geloso" manual, spare new R.C.A. 6146 valve, original packing case, $125. F.O.R. Katanning. C. W. C. Sirl, VK6XG, Katanning, W.A.

**FOR SALE**: Professionally built s.s.b. rig, 80-10 mx, 9 Mc. McCoy filter, 7360 bal. mod., 200w. p.e.p., 8236 p.a., c/w. h.d. power supply, xtal mike. Cost $350 for parts, will take $200 the lot. VK3ZX, H. M. Everett, 69 Moore St., Traralgon, Vic.

**REC/TX** "Morrow" compact 50w. a.m.-c.w. station (inc. handbook), 80-40-20-15-10 metres, v.f.o. or xtal, 230v. or 12v. mobile (transistor p.s.); Rec. double converted to 220 kc., squelch n.l., S meter, 100 kc. cal., $170. Also 522 2 metre Rec/Tx, $10. Genemotor, 12v. to 500v-275v., $2. VK3VC, Phone 870-8085 (Melb.).

**SELL**: ART13 Transmitter, in original unmodified condition, complete with dynamotor, cable, and handbook, $50. VK3ZIQ, Phone 99-4394 (Melb.).

**SELL**: AT14A Tx, 2-20 meg., a.m., c.w., v.f.o., vox, 2 x 813 final, 2 cabinets, a.f. and r.f. valves, service manual, one coil missing, deliver free 60 miles. $80 or offer. Chas Shaw, VK2BIE, 193 Jamison Road, Penrith, N.S.W. Phone Pen. 22827.

**WANTED**: FL100B complete, state condition. Also 0-300 volt a.c. meter. VK4CK, 72 Canning St., Warwick, Qld., 4370.

**WANTED**: S.s.b. Transceiver. Wanted: Circuit diagram for "Radameta" Valve Tester. P. Engelman, 26 Alimar Rd., Glen Waverley, Vic., 3150; phone 560-0645 (Melbourne).

**WANTED TO BUY**: Pre-1927 Radio Sets and parts, especially bright emitter and early tx valves, neutrodyne rx's. Also magazines (not Listener In) and A.R.R.L. Handbooks, pre-1934. F. K. McTaggart, VK3NW, 37 Ryeburne Ave., Hawthorn East, Vic., Phone 82-1141.

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- **TECH TE65 V.T.V.M.**
  DC volts: 1.5, 5, 15, 50, 150, 500, 1500. AC volts: 1.5, 5, 15, 50, 150, 500, 1500v. r.m.s.; 1.4, 4, 14, 40, 140, 400, 1400, 4000v. p-p. Resistance: R × 10, 100, 1K, 10K, 100K, 1M, 10M. Decibel: —10 db. to +65 db. **£50.00.**

- **MILLER 8903B 455 Kc. PRE-WIRED I.F. STRIPS**
  Comprises two i.f. stages, diode detector, in-built a.v.c, 55 db. gain, NPN silicon transistors. DC requirements, 6 v.d.c. 2 mA. Size, 1½" x ½" x ½". **$8.70** inc. tax.

- **STAR SR700A AMATEUR-BAND RECEIVER**
  Freq. coverage: 80 mx, 3.4-4.0 Mc.; 40 mx, 7.0-7.6 Mc.; 20 mx, 14.0-14.6 Mc.; 15 mx, 21.0-21.6 Mc.; 10 mx (A), 28.0-28.6 Mc.; 10 mx (B), 28.6-29.1 Mc.; 10 mx (C), 29.1-29.7 Mc. Triple conversion: 1st i.f., 3.4-4.0 Mc.; 2nd i.f., 1650 Kc.; 3rd i.f., 55 Kc. Sensitivity: a.m. less than 1 uV. for 10 db S+N/Noise Ratio; c.w./s.s.b. less than 0.5 uV. for 10 db. S+N/Noise Ratio. Selectivity: 0.5 Kc., 1.2 Kc., 2.5 Kc., 4 Kc., all at —6 db. In-built 100 Kc. Crystal Calibrator (crystal supplied). **$461.50.**

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- **STAR ST700 SSB TRANSMITTER**
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  180w. p.e.p. on SSB or CW, 80w. on AM. 5.2 Mc. crystal filter. Sideband sup., —40 db.; carrier sup., —50 db. Receiver sensitivity: 1.0 uV. for 10 db. signal to noise. Receiver selectivity, 2.7 Kc. at 6 db. 10 Kc. receiver off-set tuning. Printed circuit i.f. strip. Pre-aligned xtal filter. Freq. coverage: 80 mx, 3490-4010 Kc.; 40 mx, 6990-7310 Kc.; 20 mx, 13890-14410 Kc. (LSB 80 and 40 mx, USB 20 mx). Price **$328.78.**

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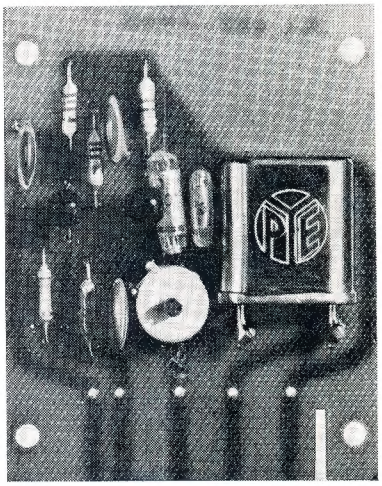

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